

Life Insurance

Life insurance is a bulwark of American business that has come through the past two years of deflated values with public confidence in its soundness unimpaired. A dollar of life insurance in force today is not only safe as an investment, but measured in terms of purchasing power, is worth more than it was two years ago. The increasing recognition of these facts on the part of the public is a just tribute, not only to the fundamental principles of insurance, but also to the stability of the system under which it operates and the firmness of its financial structure. As former President Coolidge said recently:

"The stability of life insurance rests upon America."

Modern life insurance makes it possible for the policyholder to build up a savings fund that can be drawn upon in a time of need. It is more than protection for beneficiaries after the death of the insured. As a stabilizing factor in a distressed business world it is of immeasurable value in furnishing financial reserves that have kept off bankruptcy for countless individuals and lessened the shock of losses which would have led to disaster for many business enterprises. This function of life insurance is now recognized as one of its greatest advantages, and there has been an enormous growth in business life insurance for the protection of partnerships, corporations and creditors.

At the end of 1930, approximately \$113,700,000,000 of life insurance was in force in the United States, protecting 68,000,000 policyholders. Since 1923, the amount of insurance in force has more than doubled. Based on the combined record of 44 companies which do about 82 per cent of the total life insurance business of the country, the Association of Life Insurance Presidents reports that new business for the first ten months of 1931 amounted to \$9,121,000,000. While this is about 13 per cent below 1930 and 14 per cent below the record of 1929, it is about 44 per cent higher than the average total insurance written during the two years following the depression of 1920-21.

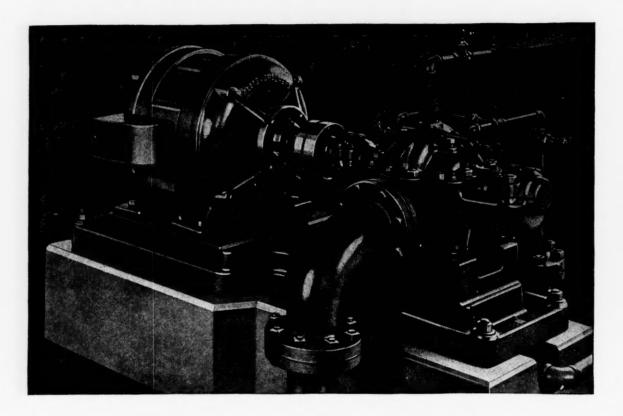
Life insurance companies of the United States paid out in 1930 more than \$2,600,000,000. Approximately \$1,344,000,000 was paid in death and disability claims and for matured endowments, annuities, etc.

There is one feature of the life insurance industry which is often overlooked. In 1930, the assets of the legal reserve life insurance companies of the United States were in excess of \$20,000,000,000. Out of every dollar invested, an average of 43 cents was in mortgage loans on real estate, 23 cents in railroad securities, 12 cents in government and municipal bonds, 9 cents in public utility securities, cash and miscellaneous assets and 13 cents was in loans to policyholders.

Good Appearance!



an Allis-Chalmers Mark of Quality Performance



Centrifugal Pumps

The Allis-Chalmers line consists of low, moderate, and high head single stage pumps of 1" to 72" discharge, multi-stage pumps for working pressure up to 1500 pounds, high efficiency paper stock pumps, and pumps for special applications.

ALLIS-CHALMERS Centrifugal Pumping Units have a fine substantial appearance and it is a reasonable assumption that they will perform as well as they look. When fine appearance and substantial construction are backed up by nearly fifty years experience building Centrifugal Pumps, purchasers can have confidence in these pumps for their requirements. A trial, however, will be the best proof.

ALLIS CHALMERS Allis-Chalmers Manufacturing Company, Milwaukee —

An EXTRA

4 yard

capacity



MR 12-10-Gray

Branch Offices:

Atlanta, Ga.: 351 Whitehall St. Memphis, Tenn.: Second at Butler Dallas, Tex.: 1221 S. Lamar St. St. Louis, Mo.: 1325 Macklind Ave. New Orleans, La.: 514 Bank Bldg. with the Northwest Dragline Bucket!

THIS IS PAGE

By virtue of superior design and alloy steel construction, the Northwest Dragline bucket brings you more capacity per pound of weight than any other bucket on the market.

Here is bucket construction that has never before been equalled. Write for our illustrated folder.

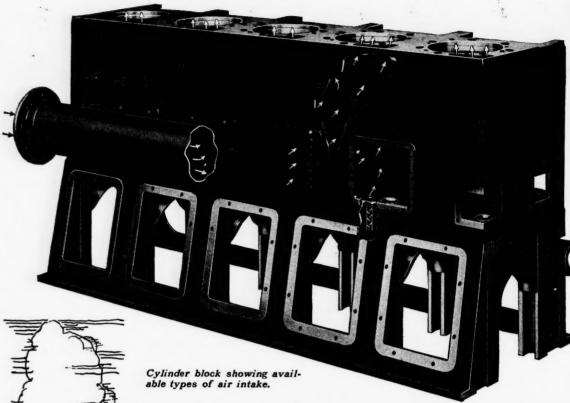
NORTHWEST ENGINEERING CO.

The world's largest exclusive builders of gasoline, oil burning and electric powered shovels, cranes and draglines

1733 Steger Bldg., 28 E. Jackson Blvd., Chicago, III., U. S. A.

NORTHWEST

SWING LESS STEEL AND MORE DIRT





Removable and interchangeable cylinder liner. Honed inside and turned on the outside to insure uniform expansion and contraction.

MODERN CYLINDER BLOCK CONSTRUCTION

Increased strength without added weight . . . closer cylinder grouping with greater cooling area . . . reduction in number of parts and elimination of bolted joints . . . use of removable cylinder liners . . . cast-in air intake and air starting manifolds which obviate the use of exterior piping—all are incorporated in Superior Diesel Engine Cylinder Blocks.

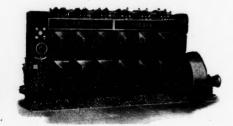
Enbloc construction also provides for the complete elimination of crankcase vapors without the use of piping. Vapors pass from crankcase to air intake through a baffled passage, mix with incoming air, and pass directly to combustion chamber as shown by arrows on above illustration.

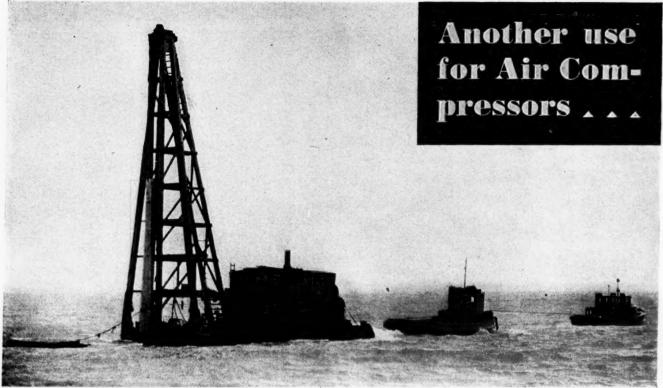
Superior Diesel Engines range in sizes from 35 to 800 rated horsepower, in models from two to eight cylinders. You get SUPERIOR design, performance and far greater value when you buy the Superior.

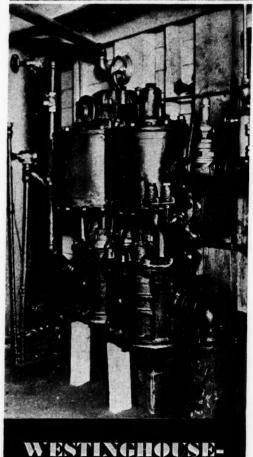
Bulletin No. 120-N sent free upon request

SUPERIOR ENGINE COMPANY SPRINGFIELD, OHIO

SUPERIOR







NATIONAL

Air Compressors

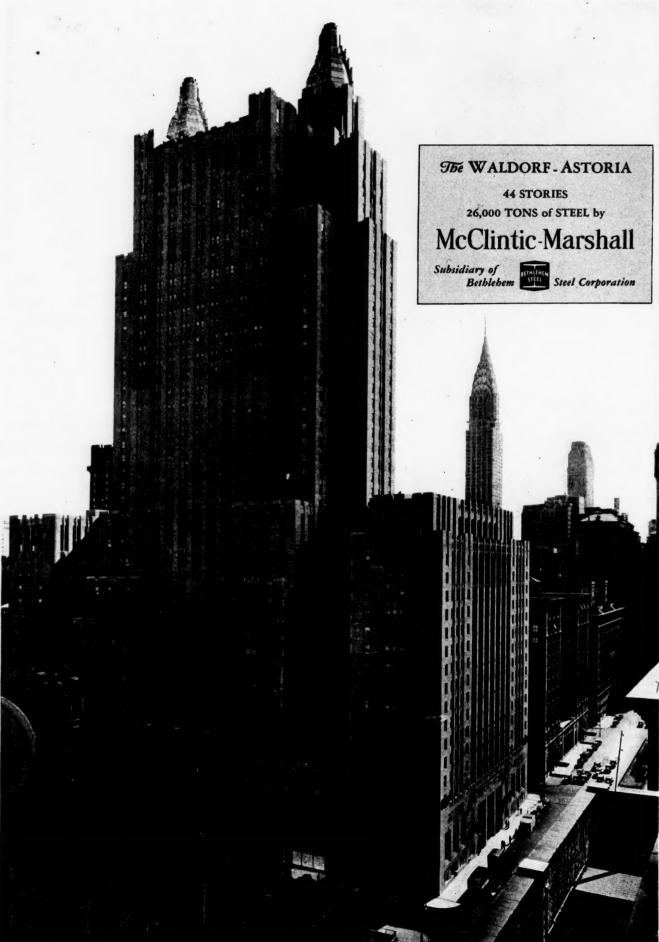
"Quality Machines for Quality Service" PILE DRIVERS—by the score—are using Westinghouse compressors to supply air for operation of various pneumatic tools in connection with dock construction and maintenance work.

The steam driven compressor is particularly suited for this work, as maximum advantage of available boiler capacity can be realized . . . When piles are being driven, steam is used for operating the hammer. When piles are being joined with stringers, steam is used to operate the compressor to supply air for saws, wood borers, drift bolt drivers, etc.

The compressor illustrated is the $10\frac{1}{2}$ " cross compound type, 150 cu ft. displacement, rugged, durable and economical, as both steam and air are compounded. This machine requires no floor space and can be readily attached to the wall.

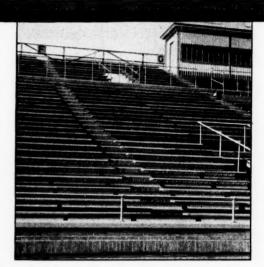
Westinghouse-National air compressors are also available in motor driven types, ranging from $2\frac{1}{2}$ to 300 cu. ft., for every conceivable pneumatic requirement in marine work.

WESTINGHOUSE TRACTION BRAKE CO. Industrial Division, Pittsburgh, Pennsylvania



Architects: Schultze and Weaver; Engineer: H. G. Balcom; General Contractor: Thompson-Starrett Company







Here is a steel stadium, its deck and seating arrangement almost identical to the W & L Stadium above. But in this case the back and underpart has been utilized for 8 regular-size classrooms, an auditorium, armories, dressing rooms, showers, etc., at a considerable saving for combined facilities. We built this stadium for the Woodlawn High School, Birmingham, Ala.

Seats, and More Seats

A few years ago we built a steel stadium for Washington and Lee University at Lexington, Virginia. Recently they had us enlarge this stadium to provide more seats for their football games. They have been highly pleased with what we have given them both as to design and cost.

Our steel stadium is a steel supporting frame with a steel deck, and then with raised wooden seats on steel brackets. It is a precise, economical and altogether durable design. Incidentally the seat and foot arrangement is the most comfortable that has ever been devised for outdoor stands.

We have built a number of steel stadia of different size and arrangement, some with more architectural treatment than others; some with a watertight deck and the space under it finished up for use as class rooms, dressing rooms, etc. Steel is always the most adaptable construction material, and its use in a stadium enables economies and facilities that cannot be had otherwise and withal a low first cost and low upkeep.

We shall be glad to furnish designs and estimates, or just talk it over, with no obligation whatever assumed or implied.

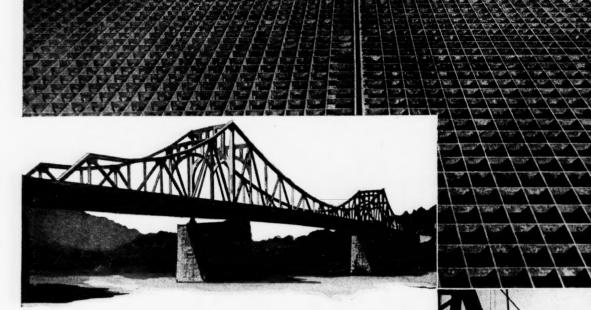
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Roanoke, Birmingham, Memphis, Atlanta, New Orleans New York, Los Angeles, Charlotte, Dallas, El Paso

Plants at Roanoke-Birmingham-Memphis

VIRGINIA BRIDGE

Steel Structures



T-TRI-LOK Floor Features New Boston (Pa) Bridge

Strong, permanent, fireproof, light in weight, **T-TRI-LOK** provides an efficient and economical roadway surface which meets all requirements of modern traffic conditions.

T-TRI-LOK is particularly easy to install. Standard units are furnished in widths up to 4 feet and in lengths up to 40 feet. Units are placed directly on bridge stringers and secured by bolting, riveting, welding or clipping. The cells are then filled flush with concrete, preferably vibrated into place, forming an armored concrete, non-skid wearing surface of long life and high efficiency. No forms for concrete are required.

Pictured above is the new Boston Bridge No. 6 over the Youghiogheny River, erected by Fort Pitt Bridge Works, where T-TRI-LOK was used with complete satisfaction. Send for the booklet, "T-TRI-LOK Bridge Floor Construction."

Carnegie engineers are also at your service.



Subsidiary of United States Steel Corporation

165

T-TRI-LOK



The Composing Room of "The News Building", New York City, showing part of the ventilating system using Youngstown Sheets, installed by Hermann Grace Company, Brooklyn. The two main stacks illustrated are almost 200 feet long, 4 feet wide and 2 feet deep.

Photograph, courtesy of the News Studio

YOUNGSTOWN SHEETS

are

GOOD SHEETS

AND EVERY FABRICATING
OPERATION PROVES IT!

All Youngstown Sheets are made with the fabricator's needs clearly in mind. No matter what type of Sheet you may need, or what operation it must go through in the fabricating process, Youngstown can and will furnish Sheets exactly suited to your requirements.

Thousands of fabricated products and thousands of sheet metal installations have conclusively proved that Youngstown Sheets have no superior. Try them, and prove the truth of this statement to your own satisfaction.

THE YOUNGSTOWN SHEET & TUBE CO.

One of the oldest manufacturers of copper-steel, under the well-known and established trade name "Copperoid"

General Offices-YOUNGSTOWN, OHIO

GALVANIZED SHEETS PROTECT

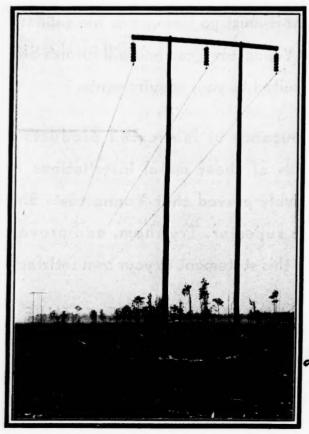
SAVE WITH STEEL

Why Amcreco poles have like the last of th

THE PRECEDING discussions in this series have described several of the reasons why Amcreco poles possess "strength that lasts." They have the natural strength peculiar to select southern yellow pine and this strength is made lasting by careful handling, seasoning and treatment.

on proven facts

Perhaps this whole matter can be clearly



and simply summed up in the statement that Amcreco poles are the result of practice based on proven facts.

It is probably inevitable that some differences of opinion should exist regarding a subject which involves as many technical questions as wood preserving. Certainly there is room for further experimentation in an effort to clear up debatable points. But the hasty adoption of innovations is not necessary and is usually unjustified. As we look back over the quarter of a century of experience which this organization has had in the industry, certain facts stand out clearly.

It is significant that on not a single one of these time-tested points has it been desirable for this company to change its policy. From the pioneer days of wood preserving in this country to the present time we have stood firmly on facts as best we could determine them and we offer our record as evidence of the wisdom of such a course.

We will gladly show you why Amcreco poles have "strength that lasts" and what advantages this quality has for you in your line construction.

AMERICAN CREOSOTING COMPANY

COLONIAL CREOSOTING COMPANY GCOMPONIED



GEORGIA CREOSOTINO COMPANY

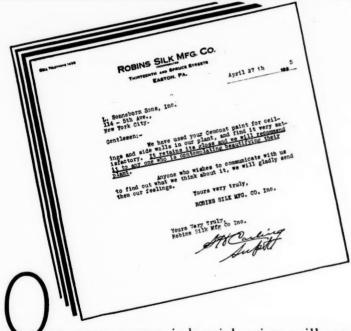
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MR 12-10 Gray

L.SONNEBORN SONS, Inc.

Made for Your Specific Needs

Sonneborn Paints



The specialized industrial paints will meet most of your requirements for lasting protection of walls, floors, roofs, machinery, boilers, stacks and all interior and exterior surfaces.

Proved and tested in thousands of plants and factories, these paints have been perfected until each stands unrivalled for its purpose—a fact attested by countless endorsements from technical men all over the country.

But we do not stop with our regular lines of paints. Our experts are at your service for any *unusual* painting job that you have to do. Whatever your problem, consult us. There will be no obligation. We'll get together with you and produce exactly the *right* paint for *your* job. If necessary, we'll make a paint especially for you.

And remember—Sonneborn works with you for economy and keeps the cost down. Write us today about your painting needs and let us send you detailed information.

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Some

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The original liquid concrete floor hardener. Binds loose particles into a close-grained mass, smooth and granitehard. Stops dusting and crumbling.

LIGNOPHOL

For finishing, preserving and wearproofing wood floors. Penetrates wood with lifegiving gums and oils.

CEMCOAT FLOOR ENAMEL

Interior and Exterior Paints For all types of floors. Produces a durable, dustless, sanitary, high-gloss finish. Comes in colors.

HYDROCIDE COLORLESS

A waterproofing for exposed exterior walls that carries waterproofing material into brick, stone or cement.

MAINTENANCE PAINTS

For All Purposes

Complete line for interior and exterior surfaces and for machinery, boilers, tanks, stacks, etc.

MARVELWHITE

CHEMICAL ENAMEL

Not affected by fumes and gases. Stays white. Can be washed.





One of the sixteen Whitcomb Locomotives owned by the Public Service Production Company. This is a 25-ton machine capable of exerting a drawbar pull on a dry, clean rail of 12,000 pounds; with sand the adhesion is increased to 15,000 pounds. It is shown here with a transformer 28 feet high, which weighs 85 tons and is mounted on a special car weighing 15 tons. Maximum grades of $3\frac{1}{2}\%$ are encountered on the lines between plants over which this unwieldy looking 100-ton load is handled like a toy by the Whitcomb industrial giant.

WHITCOMB TYPES AND SIZES

FULL CHAIN
31/2 to 20 tons
CHAIN & SIDE ROD
20 to 35 tons
GEAR & SIDE ROD
30 to 60 tons
GAS-OIL & DIESEL
ELECTRIC
20 to 100 tons
STORAGE BATTERY
2 to 15 tons
TROLLEY
2 to 15 tons

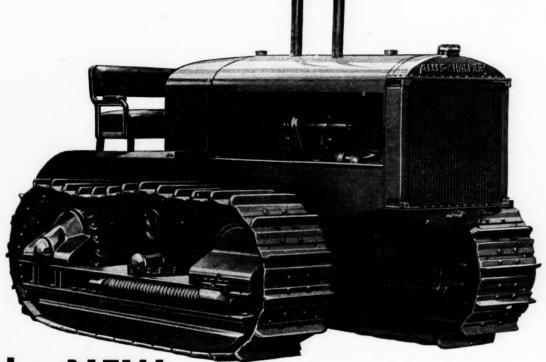
THE days are gone when men must "go to the Mountain." For if it be a mountain of steel, fuel, timber, machinery or any other essential material of industry, there is a Whitcomb Locomotive to bring it where men want it. Throughout the world Whitcomb Locomotives, modern giants in industry, daily move mountains of materials . . . and at low cost.

Whitcombs use fuel only when in operation; there is no standby loss. They operate on low-grade fuel at a saving of 40 to 60% in fuel cost. One man is a complete Whitcomb crew. For smooth, flexible operation, to make the grade and haul the load in any class of work, there is a Whitcomb Locomotive.

THE WHITCOMB LOCOMOTIVE COMPANY Rochelle, Illinois



6 SPEEDS - 6 CYLINDERS



in the NEW HEAVY DUTY FAST MODEL L'TRACTOR

Think what it means on a dirt-moving job — in many cases three round trips from load to dump while other tractors make two — hauling more — moving more dirt on each single trip.

When you realize that Allis-Chalmers Model "L" Tractors have been in the toughest kind of service well over 4,000 hours — with practically no repair expense—you know they are built to last.

Consider these Model "L" features—
high road clearance, unit construction
— no frame or subframes, easy accessibility to all working parts, valve in head
engine and replaceable cylinder liners.

It's a knockout! Allis-Chalmers
Dealers are ready to show you—

Allis-Chalmers

MILWAUKEE, U. S. A.

TRACTOR POWER FOR EVERY PURPOSE



They've put MUSIC on the hospital staff

How much shorter the hours of convalescence when there's cheery music! And not just seemingly shorter—for music

is a real tonic that speeds recovery.

Many a hospital puts music "on its staff" by installing Western Electric Public Address and Music Reproducing Systems, which amplify and distribute sound. Patients now listen to entertaining programs—either phonograph or radio.

Public Address is an outgrowth of half a century's experience in making Bell Telephones. Talking picture equipment, radio broadcast apparatus, radio telephones used on leading airlines, and aids for the hard-of-hearing are also members of the telephone family.

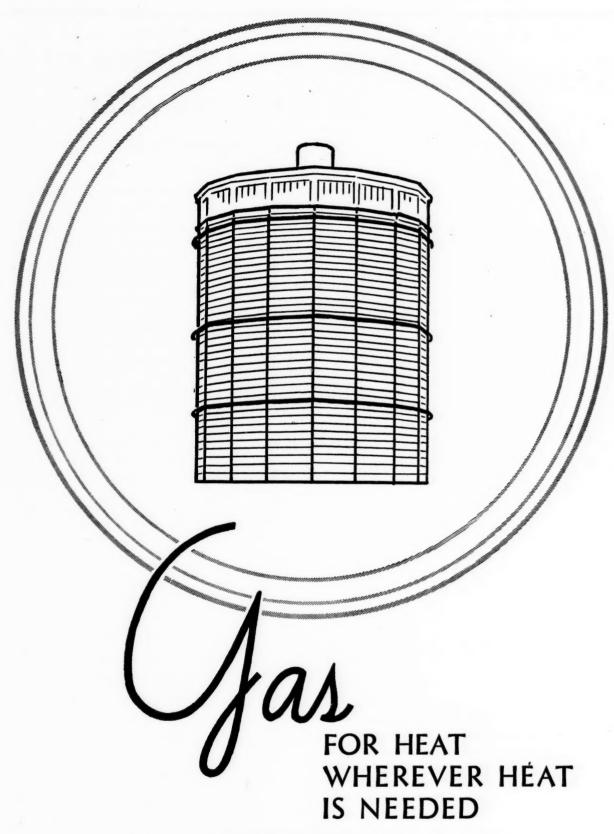
And as new needs of the public arise, still other applications of sound will come out of the Western Electric workshop.

Western Electric

Makers of your Bell telephone and leaders in the development of sound transmission



The Western Electric Public Address System is distributed by Graybar Electric Company.



From the jeweler's tiny torch to the mighty blast furnace. The free book "Gas Heat in Industry" tells the whole story. Send for it.

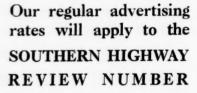
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2 pages - - \$252.00

1 page - 126.00

1/2 page - . 64.50

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Present advertisers can use extra space at contract rates.

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Special Color Section

For additional color (Red) \$25.00 extra per page.

SOUTHERN HIGHWAY REVIEW NUMBER

Issue of January 7, 1932

N the issue immediately preceding the American Road Building Show and Convention, it has been our custom to publish our Southern Highway Review Number, in which are presented summaries showing activities in each of the Southern States during the preceding year, and official information as to the programs and budgets for the ensuing year.

Feature articles in this issue written by authorities in their respective fields, cover major highway and motor transportation problems. These annual issues are widely read by road machinery and equipment manufacturers, students of highway economics, organizations and officials interested in road building.

In the weekly Construction Department of the Manufacturers Record and in the *Daily Construction Bulletin* of advance information, we publish more items under Roads and Bridges than under any other headings.

In gathering and reporting details of highway and bridge programs as they develop, we maintain continuous contacts with highway engineers, contractors, machinery and material manufacturers and distributors in the South and Southwestern states.

This thorough coverage, together with the prestige and influence the Manufacturers Record enjoys throughout this section, makes it an exceptionally well suited medium for your advertising.

In planning your space for 1932, why not start your campaign with an attractive piece of copy in the Southern Highway Review Number.

MANUFACTURERS RECORD

The South's Business Paper for Fifty Years

Baltimore - - - Maryland

MEET US AT THE ROAD SHOW-BOOTH No. 103

BUILDERS of HOOVER DAM Select INTERNATIONAL TRUCKS

"Six Companies Inc.," Builders of Greatest Engineering Project Since the Panama Canal, Place Large Order Exclusively with International Harvester

HOOVER DAM is under way. The great Boulder Canyon project of the United States Government which has long made news for a nation now advances into construction stages

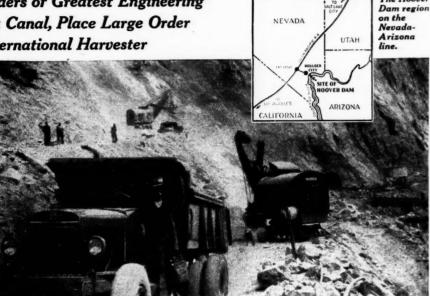
And as action begins on the mighty Colorado, comes a news item of vital interest to the construction industry and to the automotive world. Six Companies Inc., of San Francisco, a combination of six leading western contractors which is to build Hoover Dam under a bid of \$48,890,999, has standardized on International Trucks as qualified above all others to bear the heavy hauling responsibilities in their contract.

The full meaning of this decision—the extent of the honor paid to International performance and service—can be appreciated only when measured against the immensity of the project itself.

The Job-

Space does not permit going into the details of the Hoover Dam project. They have long been matters of public record. Suffice it here to say that the plan encompasses flood control and general river regulation, irrigation, silt control, power development and domestic water supply affecting a large part of the Southwest. The entire enterprise involves an appropriation of \$165,000,000 and includes many auxiliary developments of great magnitude in addition to the dam itself.

The dam will fill the gigantic chasm of the Colorado River to a height of about 730 feet above the foundations. It will be one-eighth of a mile thick at the base, will contain about 3,400,000 cubic yards of concrete, and will impound 30,500,000 acre-feet of water in an area vastly greater than Gatun Lake at the Panama Canal. Millions of yards of rock and earth must be removed; millions of tons of building material must be hauled. Employment will be given to thousands of men, the work



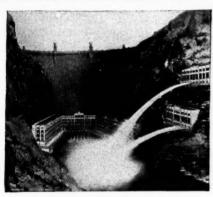
One of the International heavy-duty trucks working at Hoover Dam. The open hood is expressive of the intense heat in the canyon, rising as high as 128 degrees. The boulder-proof armored cab is further evidence of conditions encountered. Note, at right of shovel, the entrance to an auxiliary tunnel used in construction of the great diversion tunnels that will extend three miles through

extending over a period of six to seven years.

Today the canyon hums with intense activity. "Boulder City" is springing into being like a magic town of gold or oil. Railways and highways are being built. Modern engineering genius is mobilizing to conquer problems that stagger the imagination. Already work has begun on four great diversion tunnels each 50 feet in diameter and nearly a mile long, to be driven through the solid rock of the canyon walls. These channels alone involve the hauling of nearly a million truck loads.

—and the Trucks

In such a setting, with mountains to be moved under such conditions, trucks will have their work cut out for them. Six Companies Inc., guided by years of experience in heavy-duty



UTAH

Hoover Dam as it will look on completion, towering 730 feet above foundation rock, with power houses on both banks of the river. The dam will be nearly 1200 feet long, 45 feet thick at the top, and 650 feet thick at the base. This barrier will form a reservoir 115 miles in length with a shore line of 550 miles and an area of 227 square miles, the largest artificial lake in the world.

hauling, is banking on Internationals. The fine performance of Internationals in the service of the first sub-contractors on work in the canyon only made the choice the easier. Scores of International Trucks are now in process of delivery at the site. The first fleets have long been on the job, rugged, capable, and economical-admired alike by the engineers, the drivers and the shovelmen who know full well how good each truck must be to stand the gaff.

International Harvester is proud to have Internationals selected for work on Hoover Dam. The news from Boulder Canyon is of great practical value to buyers of trucks everywhere. It provides another chapter of evidence contributing to the high reputation of International Trucks.

INTERNATIONAL HARVESTER COMPANY 606 S. Michigan Ave. OF AMERICA (INCORPORATED) Chicago, Ill.



Front of dam will rise just beyond foot bridge shown here. Hoover Dam will be higher than any dam now ex-isting and the construction will require 5,500,000 barrels of cement and nearly 60,000



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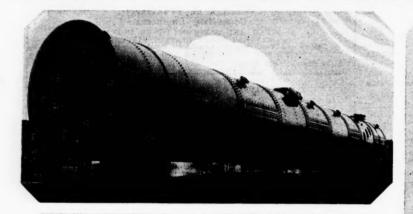
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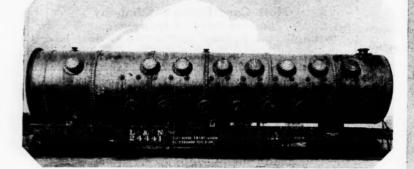
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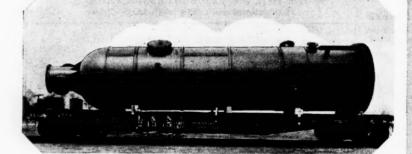
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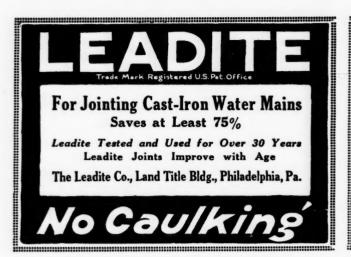
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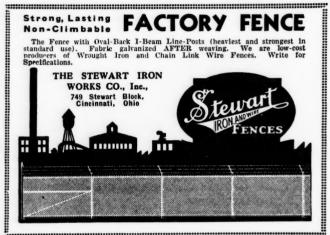
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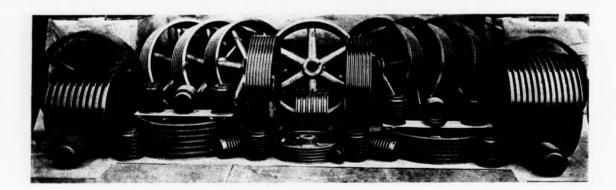
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Vol. C No. 24 1 Weekly

BALTIMORE, DECEMBER 10, 1931

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The Power Situation

Taking into account the trend of power development as a whole, in discussion of the electric power situation and Government regulation, the Federal Power Commission's eleventh annual report to Congress acknowledges the "indispensable service rendered to the public" by the electric industry. And the commission calls attention to the fact that other industrial plants can and do shut down for extensive periods, but an uninterrupted flow of electric current from the generators to widely distributed points of consumption has become an absolute essential in the life of today.

The report strikingly emphasizes the expansion of the industry. Electric production more than doubled in the nine years up to 1930. While this rapid growth was halted last year, the increase in generating capacity has not stopped; nor has there been any material reduction in operating revenues, for the fiscal year ending June 30, 1931, shows only a quarter of one per cent less revenue than the fiscal year 1930.

No other great industry, states the report, exhibits a like resistance to the general economic influence of this period.

In the past decade, invested capital in the power industry increased from less than \$5,000,000,000 to more than \$12,000,000,000, or about 150 per cent. Measured in generating capacity, sales of energy and revenue earned, the increase in the past ten years has been 100 per cent or more. But the public interest in the power situation, as the report explains, resolves itself into questions concerning the quality of service rendered and the price asked for the energy. As to the cost to the consumer, electricity has been one of the few products of American industry which showed a declining price level prior to the depression. In terms of residential service, the average price of the kilowatt hour has been steadily lowered in the past decade, dropping from 7.52 cents in 1921 to 6.06

cents in 1930, and continuing downward to an average price of 5.91 as of July 1, 1931.

More noteworthy, however, in the ten-year period, and yet not unconnected with the lower rate has been the increasing use of electricity in the home, amounting to 250 per cent gain in quantity sold to home customers as compared with a gain of less than 150 per cent in quantity generated. Not only have the number of domestic customers and the number of people living in electrically-lighted homes been more than doubled, but also the annual consumption of the domestic customer has increased steadily, from 374 kilowatt hours in 1921 to 563 at the end of the fiscal year 1931. In terms of the average household budget, the average consumption of electricity in 20,000,000 American homes in July, 1931, was 22 per cent greater than in January, 1929, yet the increase in size of the monthly bill rendered was only nine per cent. The commission states there is every reason to expect a continuation of this increase in average consumption and the decrease in average household rate.

Summarizing further, the following extracts dealing with the power situation are worthy of consideration:

"Characteristics of the power industry are its remarkable growth, its noteworthy stability, and its adjustment of capacity to demand. With the expansion of facilities has gone an increasing requirement of new capital each year and the corresponding need of credit, inasmuch as capital expenditures equal half the gross revenues. Thus, the standing of the industry with the investing public becomes a matter of vital concern, and its public relations form a critical topic for consideration.

"The stability of this industry in these times of widespread and severe testing has been demonstrated by maintenance of earnings for the industry as a whole. And this exceptional record, among the major industries, is clearly to be credited to the favorable relation of demand and supply. What other productive industries are now seeking, this electric utility already possesses.

"It is generally recognized that in many of the basic industries costs of distributing goods to consumers have been increasing as costs of production have been lowered. In the electric power business, however, some of the items that contribute to the high cost of selling a product are absent, such as competitive marketing, long-time credit, warehousing and storage. On the other hand, furnishing as it does, at large capital cost, its own transportation through the long-distance transmission and local distribution systems, the power and light company has its own peculiar problem in distribution. Moreover, there is necessarily considerable loss between the generating plant and the ultimate consumer that engineering advances may reduce but cannot remove. Thus the amount of electricity produced but not sold last year reached the imposing total of 14,500,000,000 kilowatt hours, or a loss of about 16½ per cent. This percentage is being steadily reduced, so that it is already more than one per cent lower than in 1926.

"Generating capacity has been kept fairly well adjusted to market demand. As a modern power plant cannot be planned and built in a year, new construction continues even in a period like the present, and thousands of kilowatts are added each month to the generating capacity of the country. Indeed the records of output in these two years of general industrial depression plainly indicate an expanding market for electricity. The temporary falling off of wholesale demand by the industrial users has been offset by an increase in retail sales to domestic and other small users, so that the revenues at present are essentially the same as two years ago. New customers are being found, while old ones have simply reduced their demand.

"That the electric business of the country is neither overbuilt nor overproducing is a benefit that must, in large part, be attributed to the fact that the industry is treated as a regulated public service monopoly. This highly favorable advantage of being a balanced industry, able to adjust capacity to demand, is due in part to the fact that the indispensable nature of the service rendered, together with the new uses constantly added, tends to augment that demand, but it should also be observed that the monopoly of market allowed to the electric utilities creates a high degree of stabilization that is beneficial to both the public and the industry.

"To these economic advantages, not shared by most other productive businesses, should be added the geographic expansion of the larger units in the power industry, a type of growth that differs in some respects from that of other basic industries. The interstate business in the transmission of electric energy is not only already established but rapidly increasing in volume. Indeed, measured by quantity the interstate movement of electricity was almost twice as much last year as four years ago."

In referring to public utility regulation and the need for more facts on the rapidly expanding electric power business which the commission feels necessary in order to formulate an unbiased plan of control, this significant statement is made:

"What is to be sought in the public interest is that the regulatory agencies, whether state or Federal, may exercise a promoting as well as conserving influence over development. However, it must be admitted that in industry, pioneering is more often a characteristic of individual effort than of governmental action. Therefore excursions into management in the name of regulation, should be avoided. (Italics ours.) Results can be asked and required by the regulatory bodies, but the choice of means and the discovery of methods can be much better left to private initiative.

"The practical ideal to be sought in public regulation, local, state and Federal, is to make it most effective and least onerous. While it is a problem in social economics to secure for the public its full share of the benefits from the scientific genius, engineering skill, and financial courage that have created the public utility, equally earnest thought must be given to the necessity of promoting and encouraging engineering and executive efficiency."

It would be difficult to place too much emphasis on what has been accomplished by farseeing leadership in power development. Pointing out that the investment in electric utilities in the United States has increased in 25 years from approximately \$1,000,

000,000 to \$12,000,000,000 and that the number of customers has increased from a few millions to more than 25,000,000, W. S. Lee, vice-president and chief engineer of the Duke Power Company, in a recent radio address, said:

"In North Carolina our utilities have developed at a rate that compares most favorably with the development of utilities in other favored sections of this country. In some phases of this development, North Carolina and its sister state to the south, have pioneered and have blazed the trail for the power industry in other sections. I refer among other things to the introduction of high tension transmission, which has made possible the extension of power lines over large territories, and the extension of electric service to millions of people. North Carolina today ranks among the outstanding states in the Union in the matter of power development, not only in the development of water power, but in the perfecting of a power system through the construction of huge steam plants that balance our hydro-electric development during the periods of drought.

"The utilities of North Carolina have repeatedly demonstrated their ability to render efficient service and they have extended that service to new customers and into new communities just as rapidly as conditions have warranted. As a matter of fact, with a splendid faith in their state and the communities that constitute it, our utilities have often taken chances on the future of small communities where the business in sight would not warrant the investment required to extend service.

"Just how great has been this industrial development may be gained from these facts: At the beginning of this century we had in North Carolina approximately 72,000 wage earners in industry. The output of industry was approximately \$85,000,000 a year. In 1929, the last year for which complete figures are available, 205,000 wage earners were deriving their livelihood from industry and the industrial output of the state was worth \$1.154,000,000. The annual payroll of the industry of the state had increased during this time from \$14,000,000 to \$170,000,000."

In similar manner, practically every Southern state can show an industrial gain, largely made possible by the development of electric power facilities.

For several years the South has been developing its power resources at a faster rate than the rest of the country. Last year about one-fourth of the installed capacity of central station electric power was in the South. In the distribution of developed hydro-electric power, the percentage of the South's total to the United States has been gaining steadily, while other geographical divisions of the country have reported declines. On January 1, 1931, the South had more than 29 per cent of the installed hydro-electric power capacity of the United States.

Public utility power output of central station electric plants in the Southern States in 1930 amounted to more than 21,000,000,000 kilowatt hours. Approximately 8,216,000,000 kilowatts were produced by water power and 12,866,000,000 kilowatts by fuel power.

The rapid expansion of the electric power industry in the South has been one of the greatest forces in its material progress, making possible the utilization and development of its natural resources as a major contribution to the upbuilding of the entire nation.

A policy of making advertisers contract for a schedule forces many advertisers to succeed in spite of themselves.—

Printers' Ink.

Business Management Lacking

BASED on the results of nation-wide tax study, Simeon E. Leland, of the University of Chicago, and an authority on public finance, asserts that inefficiency in state and local government management is one of the chief causes of high taxes. And after a year's work with other tax experts, a thirty-point tax program has been submitted to the National Association of Real Estate Boards for consideration by member boards throughout the country.

Professor Leland says not only that inefficient methods in every quarter have made tax bills too high but also that a majority of local governments operate in a manner that would make a good business man blush with shame.

Outstanding is that portion of the report which lays bare the fact that accounting systems for the vast sums of money raised through taxation are conspicuous only by their absence. It is charged that many units of government keep no accounts and that others keep such inadequate records of their financial affairs that only a painstaking audit will show their fiscal situation.

Most local governments prepare no budgets; laws providing for taxation of tangible personal property are not enforced, it is declared; and real property owners are paying for streets and municipal activities which are used and shared by the public.

Among recommendations offered for cost reduction of local governments are: Long-term financial planning, debt-limitation laws, curtailment of public indebtedness, and development of one unit of local government in a territory where there have been many.

The subject of taxes and public management is certain to be at the forefront in the next several months. It is to be hoped that as a result of investigations of local government operations and expenditures there will emerge reforms which will enable the public to secure greater efficiency in government and fuller value for its tax expenditures.

People Prefer the Truth

PRACTICAL business men will trust that the Boston Transcript sees no mirage in its vision of clearthinking at this time among the people of America, in contrast with the artificialities and emotional utterances which have conspicuously marked the depression. The Transcript says, in part:

"One of the most encouraging signs of the times is that the American public has lost interest in prophets and prophesies. The clear-thinking average citizen has come to demand facts, and only facts. On promises, he is fed up. These may fill the mind with hope, but too often the expectations vanish, and leave the stomach unnourished. Such airy diet the public now rejects. It insists on the stronger meat, a regimen of solid and substantial truth, even though some of the courses may be decidedly of the

'plain homecooking' variety, and a few of the dishes downright bitter."

The preference of sound minds for Truth is fundamental and enduring. On this fact is based the stability and the confidence enjoyed by those persons and publications which support their business statements with actual figures or other concrete corroboration.

Industrial Opportunities

B USINESS opportunities in almost every field of endeavor await men of initiative and experience in all parts of the South. Especially are there opportunities for the development of small local industries in food-processing lines.

Although one of the principal food-growing regions of the country, the South has been notably deficient in supplying itself with finished food products. It spends at least a billion dollars annually outside its own borders for products of this kind that could be produced more advantageously in its own factories.

The drought of last year taught this section a lesson it will not soon forget. Many communities have been taking stock of the situation and are finding they have resources which should be utilized to supply home demand as well as to provide outside markets. The greater development of small local industries in agricultural regions of the South will be the next movement in diversification of Southern activity. Notable progress has been made in diversifying Southern agriculture; and, especially since the South has become the dominant cotton manufacturing region of the country, it has been broadening and expanding its miscellaneous manufacturing.

The state of Texas alone, as indicated in a recent survey made by the Dallas News, has raw materials in sufficient abundance to supply a great variety of needed industries. Milk products plants, creameries, canneries and poultry packing plants are specified. The survey developed the fact that about 127 counties in Texas have ample raw materials and markets for establishment of a long list of industries. Among those in principal demand in the counties covered by the survey are: 17 milk plants, 40 creameries, 20 cheese factories, 59 canneries, 20 poultry plants, 9 meat-packing plants, 11 feed mills, 7 flour mills, 10 woolen and mohair mills, 13 cotton mills, 15 cottonseed oil mills, 8 box factories, 3 broom factories, 4 brick plants, and 2 oil refining plants. Also mentioned were opportunities for three grain elevators, one bonded warehouse, two produce houses, two hotels, and one railroad.

Opportunities for establishment of industries seeking locations favorable to raw materials and available markets are to be found in every Southern state. Small local plants supplying local needs are being established continuously, but these plants, of course, have not received the publicity that has been given to nationally known organizations.

Motion Pictures

in



Progress of New Subdivisions and Developments Is Recorded by the Amateur
Motion Picture Camera

Southern Industry

By
WILLIAM E. BARR
Eastman Kodak Company,
Rochester, N. Y.

MOTION picture photography is becoming actively employed as part of the industrial apparatus of the South, in manufacture, in agriculture and in the hundreds of activities which the South is developing. Movies are becoming an important factor in instructing workers to lessen ungainful labor, in promoting safety, in marketing the services and products of Southern agriculturists and manufacturers.

Cotton is largely responsible for the South's importance to the photographic industry. In the late 80's, George Eastman, working in Rochester, announced his success in making a light, transparent, flexible, film to carry a coating of light-sensitive silver emulsion. His revolutionary find was based on the chemical reaction of alcohol and ether applied to cotton. Eastman's film discovery was hailed by Thomas A. Edison as the answer to the problem of making "moving" pictures, and it was the beginning of the motion picture industry as



A "Still" from a Motion Picture Used by the National Traffic Guard Co., Atlanta

it is known today. Cotton keeps the wheels of the photographic industry turning, and now photography is lending its force to the impetus of Southern industry.

The Kemgas Cottonseed Delinting Company, Iowa Park, Texas, is using motion pictures of cottonseed breeding work to promote sales of pedigreed cottonseed, and with most gratifying results. S. B. Jackson, president and general manager of the Kemgas Company, says that for five years they have been developing a process of delinting cottonseed with halogen acid gas which removes all the fuzz or linters from the seed. After delinting, the seeds are as smooth as beans, and can be planted with a corn plate in the planter, instead of the cotton force feed used with fuzzy seed. This saves half to three-fourths of the seed usually required to plant an acre, and also saves the expense of thinning or chopping the cotton as the delinted seed can be planted the desired distance apart in the rows. Also, they film movies of the cottonseed breeding



Shooting a Scene for a Picture Made by the Kemgas Cottonseed Delinting Co., Iowa Park, Texas

work and show pictures to many audiences

The Coca-Cola Company, Atlanta, is one of the largest users of motion pictures. Though it has used silent pictures to some extent, the company is now producing "talkies." Price Gilbert, of the company's advertising staff, says that its latest picture has been shown to 25,000 Coca-Cola dealers and soda fountain operators in six months.

The State Highway Board of Georgia had field tests made on results of impact of vehicles on various types of highway guard fences, by having automobiles, trucks and buses actually run into sections of fences at various angles. Permanent records of these tests were needed, so a large number of photographs were taken before and after each test, and motion pictures were made of each test with two Cine-Kodaks.

Filming the Story of Havatampa Cigars in the Havatampa Factory at Tampa. Florida





Rehind the Scenes During the Filming of a Recent Talking Picture of the Coca-Cola Company

Tampa, says that its motion picture showing every step in the manufacture of Havatampa cigars has proved to be a very good investment. It has been used "with excellent results" for three years and is still going strong.

It was only eight years ago that the introduction of 16-mm. film, coated with a special "reversal" emulsion, provided for laymen a practical and economical method of making movies. Now, it is as simple to make highly successful



A Permanent Visual Record of Day-by-Day Construction Progress Is Readily Secured

applies 16-millimeter movies to a clever method of interesting dealers. In an "aerocar" which travels from city to city giving radio and electrical transcription programs in front of dealers' stores, a miniature motion picture theater is built. A portable projector, screen and a complete film story of the manufacturing processes give a graphic sales story.

It is not necessary for representatives of the Myers-Whaley Company, Knoxville, manufacturer of mining machinery. to escort visitors on tours of the mines to witness the efficiency of Myers-Whaley products. Sixteen-millimeter

The information so obtained will be of

interest to engineers and will assist in working out a more effective guard

fence. Tests are made under direction

of Searcy B. Slack, bridge engineer, con-

The Jarman Shoe Company, Nashville,

nected with the Highway Board.

films projected by the Business Kodascope, a portable combination projectorscreen for the salesman's use, bring the operations of the machines right to the guest.

E. V. Camp, advertising manager of the National Traffic Guard Company, Atlanta, advocates extensive use of 16mm. movies, and he personally films many hundreds of feet of movies each year, showing installations of the Resiliflex Road Guard, and tests and pictures illustrating the efficiency of these guards in preventing serious vehicular mishaps. This company distributes the Resiliflex pictures among its various agencies, each of which is equipped with Business Kodascopes for projecting the pictures before road engineers, state highway boards and traffic experts.

B. H. Woodbery, secretary and treasurer of the Havatampa Cigar Company,

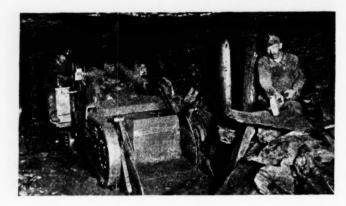
"movies" as it is to make clear, crisp snapshots with a box camera. The process of "reversing" the negative image from the camera into a positive image for the projector, together with the greatly increased simplicity of amateur cameras, has cut the cost of moviemaking to the minimum.

Sixteen-millimeter movies are valuable for picturing new developments under test, and tests are being recorded on experimental high tension transformers, explosives, automobile and airplane motors running at high speeds, characteristics of new alloys while under compression, tension, shearing and torsion tests. An unusual application is that of an aviator piloting a cabin-type plane and using a 16-mm. camera mounted on top of the wing to "see" the action of the elevators and rudder while they are under stress in flight.

Building contractors and structural

Making an
Interior
Picture
for
Standard
Practice
Study and
Employe
Training





The
Myers-Whaley
Company,
Knoxville,
Make
Pictures
of Their
Mining
Machinery
in
Operation

engineers are finding 16-mm. film a valuable asset for making visual records of their work. By taking a few feet at regular intervals, the entire building process, from turning the first bit of soil to driving the last rivet is recorded. A construction project taking months to accomplish can in this way be shown on the screen in a few minutes; yet, at any stage of the work the projector may be stopped and a scene may be viewed as a still picture. By dated titles, the rate of progress between periods of construction may be noted. Such information proves a valuable aid in computing costs, based on rate of progress, when future contracts are undertaken.

Railroads Report for 10 Months

The Class 1 railroads for the first 10 months of 1931 had a net railway operating income of \$472,306,294, or an annual rate of return of 2.05 per cent on property investment, according to the Bureau of Railway Economics. In the first 10 months of 1930, their net income was 3.43 per cent. The reporting railroads represent a total of 242,870 miles.

Gross operating revenues for the 10-month period were \$3,642,511,936, a decrease of 20.2 per cent from the same period in 1930. Operating expenses were \$2,785,789,811, a decrease of 17.6 per cent. Taxes were \$272,340,433, a decrease of 11.5 per cent.

Thirty-five Class 1 roads operated at a loss in the first 10 months of 1931, of which 12 were in the Eastern, seven in the Southern and 16 in the Western district.

Class 1 roads in the Southern district for the first 10 months had a net railway operating income of \$37,672,116, an annual rate of return of 1.34 per cent on property investment. For the same period in 1930, it was 2.63 per cent. Gross operating revenues amounted to

\$443,849,183, a decrease of 18.8 per cent under the same period in 1930, while operating expenses totaled \$364,250,262, a decrease of 15.1 per cent.

Completing Sewer System

Donaldsonville, La. — Donaldsonville has practically completed a new sewer system which involved laying 61,074 linear feet of mains, in addition to 30,-117 feet of house connections. The work also required 173 brick manholes, 6 automobile flush tanks and 14 hand-operated flush tanks. More than \$85,000 was expended for labor, practically all of which was local. J. W. Billingsley, New Orleans, La., was the engineer and the J. B. McCrary Co., Atlanta, Ga., contractor.

The White Motor Company, Cleveland, Ohio, last week announced receipt of an order from the city of New York for 774 heavy duty trucks, valued at approximately \$2,600,000. As a result 3000 employes will go on full time employment.

\$1,112,000 FOR CITY WORK

Kansas City Plans to Begin Work on \$32,000,000 Ten-Year Program

Kansas City, Mo.-Kansas City is beginning work on its \$32,000,000 ten-year improvement program for which bonds were voted in the spring, city council having appropriated \$900,000 from bond funds to start the work and \$212,499 to purchase a portion of the municipal auditorium site. Of the \$900,000 appropriation, \$150,000 will be used for razing buildings and grading the site at Thirteenth, Fourteenth, Wyandotte and Central streets for a new \$4,000,000 city auditorium, and the remainder will be distributed as follows: Waterworks and mains, \$300,000; hospital improvements, including wing at General Hospital, \$100,000; safety zones, underpasses and street signs, \$50,000; Brush Creek, \$50,-000; Townfork sewer, \$50,000; traffic ways, \$100,000, and parks and playgrounds, \$100,000. While the winter schedule calls for an expenditure of \$2.-300,000, it was decided to sell only \$900,-000 of the bonds at this time. They were purchased by the First National Bank of Kansas City at par and interest.

Brownwood Dam

PROGRESS estimates show construction to be more than 50 per cent complete on the Brownwood Dam under way on Pecan Bayou at a point eight miles north of Brownwood, Texas. The work is being done for Brown County Water Improvement District Number 1, a contract award of \$590,000 having been made in November, 1930, to the Standard Paving Co., of Tulsa, Okla., and Fort Worth, Texas.

Involving a 120-foot high channel section and an 80-foot high valley floor section, the earthen dam under construction is 1600 feet long. Its width graduates from 25 feet above the bottom of the spillway on a 3 to 1 upstream slope and a 2 to 1 downstream slope to a base of 500 to 600 feet. This top width is provided to insure against overtopping, with further protection afforded by two 12-foot diameter, reinforced concrete conduits laid under the base of the dam. Control of the conduits is by two 12-foot by 12-foot self-closing Broome gates. There is an eight-foot berm on the upstream face and three such berms on the downstream slope. A four-foot blanket of loose rock will protect the lower portion of the upstream face: 18 inches of hand-placed riprap will protect the upper portion.

When completed the embankment will contain 725,000 cubic yards of earth and 75,000 cubic yards of loose rock, including the riprap. Excavation of 600,000 cubic yards of material from a saddle



Core or Cut-Off Trench on Axis of Brownwood Dam Under Way in Texas

2000 feet northeast of the dam will leave a spillway channel 450 feet wide on the bottom and 1200 feet long, this cut having a maximum depth of 45 feet. The remaining 200,000 cubic yards will be borrowed at points above the dam.

A core, or cut-off trench is excavated across the valley on the axis of the dam. From the bottom of the valley floor section of this trench, which is 20 feet deep, 27-foot interlocking steel sheet piling has been driven three feet into bed shale. The two ends of this trench are carried into the adjacent valley slopes to a depth of 20 to 35 feet. At the bottom a concrete core wall is constructed.

The core trench is 20 feet wide at the bottom and is filled with selected clay, puddled into place. A core of puddled clay 80 feet wide at the valley floor level will be carried to the top of the dam. In the conduit, the gate well and core walls, which contain 9775 cubic yards of concrete, 1,400,000 pounds of reinforcing and structural steel have been placed.

The reservoir will be operated with its water surface seven feet below spillway level, capacity between this surface and the bottom of the spillway being nearly 50,000 acre feet. This capacity, together with that of the conduits, will make possible the control of floods which have caused considerable damage in Pecan Valley in the past.

The Brownwood Dam is being constructed for the primary purpose of supplying water for the city of Brownwood and for irrigating about 20,000 acres of land immediately adjacent to the city. At spillway level it will have a capacity of 125,000 acre-feet, a water surface of 7400 acres and a shore line of more than 80 miles.

On completion of the dam a concretelined canal about 12 miles long will conduct water to a point near the present city reservoir, into which the water will be pumped. A pumping plant at this point will distribute water through a pipe system for irrigating 10,000 acres of land surrounding the city. The district has authorized an issue of \$2,500,000 5½



Conduits Showing Collar Walls and Steel Sheet Piling in Core Trench on Axis of Dam

per cent. 35-year bonds for this purpose.

Pecan Bayou, a branch of the Colorado River, has a watershed above the dam of 1600 square miles, with a mean annual run-off of about 140,000 acre-feet. The stream at this site of the dam is bypassed through a high-water channel deepened for the purpose. Four flood peaks, one of 35,000 second-feet, have been passed since the beginning of construction without any damage to the work which is now advanced to a point of safety.

Construction of the dam embankment, with its accompanying riprap and protecting blankets, was sub-let to the James Spencer & Son Construction Co., Little Rock, Ark., which has four 1½-yard shovels at work with a combined capacity of about 5000 yards daily. Other contractors are:

Cement—Oklahoma Portland Cement Co., Ada., Okla., and Universal Atlas Cement Co., Waco, Texas

Structural Steel—Mosher Steel Co., Dallas Reinforcing Steel—Southern States Steel Corp., Dallas

Broome Gates (two)—Philips & Davies Co., Kenton, Ohio

Cast Iron Headgates (two, each 2½ by 5 feet) — Rodney Hunt Machinery ('o., Orange, N. J.

Fabrication of Steel Conduit (for discharging water from reservoir for irrigation and urban use)—Houston Structural Steel Co., Houston, Texas

Sheet Piling-Jones & Laughlin Steel Corporation, Pittsburgh, Pa.

D. W. Ross, Brownwood, is engineer for the district, having been connected with the project since its inception. R. A. Thompson, Jr., is in immediate charge of construction of the dam. G. B. Keesee has developed the details of designs and R. A. Thompson, Dallas, is consulting engineer.

More Life Insurance

An increase of 3500 applications received and \$8,000,000 in volume of new business is reported by the New York Life Insurance Company for November, as compared with the same month last year. The total for the month, President Thomas A. Buckner announced, was 25,500 applications amounting to approximately \$79,000,000. The November increase follows a gain of 1500 applications and \$1,000,000 in volume for October as compared with October, 1930.

\$650,000 Hotel Projected

Baton Rouge, La.—Plans and specifications are being prepared by Favrot & Livaudais, Ltd., New Orleans, for a proposed \$650,000 Capitol Hotel to be erected at North and Third streets in this city. An option is said to have been secured by S. J. Britton for Eastern hotel interests, on an area 128 by 128 feet, for a 14-story brick building of stone trim, to accommodate a garage in the basement, and shops, restaurant and barber shop on the ground floor. A roof garden will also be provided.

\$4,500,000 Mill Merger

Lancaster, S. C.-Stockholders of the Lancaster Cotton Mills have approved a proposal to merge their organization with those of the Eureka Cotton Mills, Chester, S. C., and the Fort Mill Manufacturing Company, Fort Mill, S. C. Meetings of directors and stockholders of the two last named companies will be held here December 28 to consider the proposal. Plans of the merger contemplate increasing the capital stock of the Lancaster Cotton Mills from \$2,500,000 to \$4,500,000 to permit acquisition of the capital stock of the other two companies, and for the voluntary liquidation of the Eureka Cotton Mills and the Fort Mill Manufacturing Company.

Lumber Orders and Shipments

Lumber orders were 22 per cent and shipments 16 per cent above the 123,-028,000 feet cut by 810 hardwood and softwood mills reporting to the National Lumber Manufacturers Association for the week ending November 28. Production was further curtailed due to the Thanksgiving holiday. Production of 829 mills for the previous week was 140,377,000 feet.

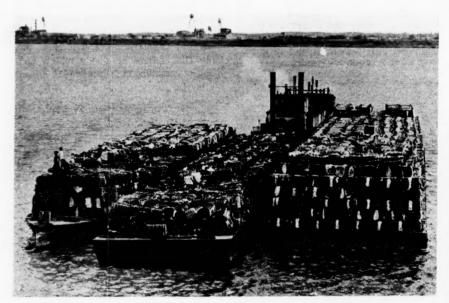
The Southern Pine Association reported that 121 mills showed shipments to be 4 per cent above production, and orders 7 per cent below production and 11 per cent below shipments. New business for the week ending November 28 was 22,575,000 feet, shipments 25,326,000 feet and production 24,317,000 feet. Orders on hand at the end of the week at 109 mills were 59,997,000 feet.

The Hardwood Manufacturers Institute reported production from 244 mills as 15,786,000 feet, shipments 16,532,000 feet and new business 20,401,000 feet.

Bids on Lock Equipment

Harvey, La.-The United States Engineer of the First New Orleans District. New Orleans, receives bids December 15 for furnishing, setting and erecting the fixed irons, gates and operating machinery for the lock being built here in the Louisiana and Texas Intracoastal Waterway. Among the materials and equipment involved are: 1,053,000 pounds of structural steel, 16,400 pounds of forging, 29,100 pounds of bolts, 535,000 pounds of steel castings, 83,300 pounds of iron castings, 9500 pounds of hand railings, 2130 pounds of bronze, 10,000 pounds of babbitt metal, 12,600 board feet of oak timber, gate valves, gate operating machinery, valve operating machinery, air compressor, capstans, and air, water and drainage piping systems.

Moving Cotton Via South's Waterways



An idea of the extent to which waterways are utilized in handling the South's principal crop is indicated by this view of the steamship "Robert Gordon" of the Memphis Packet Company which recently arrived in New Orleans, bringing a total of 5828 bales of the staple.

One-Variety Cotton Communities

By John H. Caulfield, American Cotton Cooperative Association, New Orleans.

A RECENT news item chronicles a development which should yield tens of millions of dollars to cotton growers of the South, by so improving the staple quality that spinners everywhere would seek American cotton. The United States Department of Agriculture and the American Cotton Cooperative Association have placed specialists in the cotton states to stimulate and supervise one-variety cotton communities, and agricultural agencies of those states will assist in the movement.

Just what this might mean to the South is shown by California's experience. The whole cotton-growing section of that state is a one-variety project, by law. The grower who plants anything but Acala cotton there is a law-breaker. The result is that California grows close to a bale to the acre. Also, the California staple averages an inch and a sixteenth in length, or an eighth to threesixteenths longer than the average staple for the cotton belt. A premium of \$10 or \$12 a bale which is reported for one association's cotton is more than would normally result from that staple length, because the cotton is uniform.

American cotton is making a phenomenal comeback in world markets this season, because of staple improvement. Seasonal conditions had something to do with the fact that this year's staple is well above the average for recent crops, but it is also true that more attention has been paid to planting of good seed. Several million dollars will be spent again this season for high-grade seed, but benefits will be only a fraction of what they would be if this seed were bought on the community plan. Under the go-it-alone plan, the seed may be mixed both in the field and at the gin, and in a few seasons will deteriorate. The good cotton will often be "plated" with inferior cotton ginned just ahead of it, and will be sold on the quality of the inferior "plate." It will often be sold on a "point price," established by the "average receipts," good staple bringing no more than short staple and sometimes not as much. Even when it brings full value the one-bale value is considerably less than if large lots of uniform staple were available to the buyer at a single point.

When these considerations are added up, it hangs a staggering loss on the farmer and on the community. It handicaps the manufacturer, who might expand the market for cotton goods. It leaves the American grower in a haphazard, unorganized battle with the foreign producer. Regarded merely as a matter of growing more bales to the acre, the North Carolina Experiment Station reports, for four communities, an average yield of 432 pounds of lint per acre for growers using improved seed, which had been kept pure by precautions at the gin. From seed of improved varieties, which had become mixed, the vield was 305 pounds per acre. From seed of run-down varieties, the yield was 296 pounds per acre. About half of the growers in these communities took steps to protect the purity of their seed at the gin. Only 11 per cent renewed their seed stocks as often as every two years; half of them went three or four years without renewing seed stocks, and the other 39 per cent went five or six years or longer. The experiment station bulletin urges that growers "should select an improved variety and cooperate in production of a uniform and standard staple."

Changing a whole community from many varieties to one is a formidable undertaking, and often impractical of attainment in a single season. Each grower must be shown that there will be more dollars in his pocket when he unites with his neighbors on one variety. Where it is not feasible to attempt a 100 per cent community the first year or two, a comparatively small group may be interested. Cotton cooperatives have made it easier to set up and operate a one-variety community than it has been in the past. The cooperative also may help to give protection against short-staple cotton.

Sections which can grow cotton of better than 1½ inches in staple will receive the benefits of the seven-cent tariff on such cotton, and may count on selling at least several hundred thousand bales formerly imported. Demand for better cot-

ton may be expected to increase, notably among tire manufacturers, who are turning back to longer staple in order to guarantee high mileage. In some cotton communities, it may be impractical to grow cotton of the longer staple lengths which are protected by the tariff; but standardizing on a good variety of cotton presents a vista of increasing benefits, regardless of staple length. In the farmer's present financial state, one obstacle lies in getting growers to buy the original improved seed. Chambers of commerce and other local organizations or individual firms have, in some cases, provided improved seed in exchange for ordinary seed, bushel for bushel, absorbing the difference in price.

The men employed by the cooperatives and the Department of Agriculture to work on these one-variety projects will each have one or more states to cover, and their activity in any community will be limited to occasional visits of a few days. The initiative and the brunt of the work must come from local leaders. but they will have aid, not only from those specialists, but also from the agricultural agencies of the cotton states, which have generally joined in the movement. Cottonseed oil mills, through their national association, have also indicated their desire to aid, in exchanging improved seed for ordinary.

Active cooperation by manufacturers, bankers, agricultural agencies and organized cotton farmers may well result in the production of millions of bales of quality cotton in present one-variety communities of the South.

\$6,500,000 Library Addition

Washington, D. C.—Bids for the construction of a \$6,500.000 fireproof addition to the Library of Congress will be opened January 12 in the office of David Lynn, Architect of the Capitol. The addition will be 5 stories, faced with granite. Pierson & Wilson are the architects and Alex B. Trowbridge, consulting architect, both of Washington.

\$8,000,000 Shreveport Airport

Construction is actively under way on Barksdale Field near Shreveport, La., described as "The World's Largest Airport," This big Government project, to involve a construction cost of \$8,000,000, will be the home of the Third Attack Wing of the United States Army Air Corps. The site contains an area of 22,000 acres, being more than 8 miles long and about 5 miles wide, with a frontage of 2000 feet on United States Highway 71. It was purchased by the City of Shreveport at a cost of \$1,650,-000: the funds were raised by a bond issue and the site was donated to the War Department.

Negotiations for securing the Third Attack Wing were inaugurated in 1927 by the Shreveport Chamber of Commerce, C. W. Longwill, secretary-manager, through a special committee which conferred with the War Department. A board of four army officers studied various sites, of which 40 were submitted, the Shreveport site being approved in December, 1928. Factors in its selection included: A possible 3000-acre landing field exclusive of space required for buildings; excellent facilities for aerial gunnery and bombing; possibility of locating airdrome on paved highway only four miles from the center of Shreveport. and progressiveness of the city itself.

More than \$3,500,000 has been appropriated to date for construction of the airport and more than \$2,000,000 in con-

tracts have been awarded. Of the latter. three Quartermaster buildings, a water system, grading, etc., have been completed, while other construction is 20 to 90 per cent complete. Within the next six months it is anticipated that contracts to an aggregate of nearly \$1,000,-000 will be awarded, to include: A \$47,-000 fire station and guard house, \$400,-000 for roads, \$200,000 landing field storm water drainage, \$180,000 storm water drainage for the building area, \$150,000 additional officers' quarters and an \$85,000 general headquarters building. It is estimated that more than 1000 men are at present engaged on construction work and this number is expected to be increased by 25 per cent when other contracts are awarded and present construction becomes further advanced.

Buildings are of fireproof construction, the houses resting on concrete foundations and having brick and tile walls and tile roofs. Exteriors will be stuccoed in a variety of colors, while each house will have a hot air heating plant, fire places, tiled baths, screened sleeping porches and base plugs for radio and electrical refrigeration. Floor plans are varied, to provide added individuality to the homes of officers and non-commissioned officers. Construction is in charge of Capt. George E. Lamb, Constructing Quartermaster, with a staff of more than 40 assistants.

Initial building contract was awarded last April to W. Murray Werner, Shreveport, at \$84.802, to erect a group of three quartermaster buildings, including warehouse, garage and machine shop. Previously, a 3000-foot siding from the Louisiana & Arkansas Railway track had been built into the building area. Other contracts were awarded as follows:

Non-commissioned officers' quarters (34 sets)—L. C. Maples, Fort Worth, Tex., \$425,132

Three barrack buildings for enlisted men and 42 officers' homes—Ashton Glassell Co., Inc., Shreveport, at \$905,448 and \$433,459, respectively

Five technical buildings — K. C. Wilson, Shreveport, \$97,840

Five-ton incinerator—Ashton Glassell Co., Inc., \$4190

Water supply and sanitary sewers—Forgy, Hanson & McCorkle, Lake Charles, La.,

Electrical distribution system — Electrical Engineering & Construction Co., New Orleans, \$52,750

Gas distributing system—W. H. O'Toole Construction Co., Monroe, La., \$28,500

Four hangars and three air corps buildings—W. Murray Werner, \$275,800

The following major sub-contracts were awarded:

Plumbing and heating—O'Pry Heating & Plumbing Co., Macon, Ga.

Stucco and plastering — Albert Karelius, Shreveport

Miscellaneous and ornamental iron— tur Iron & Steel Co., Decatur, Ala.

Casement and steel windows—Birmingham branch of Detroit Steel Products Co.

Vitrilite—National Fireproofing Co., Birmingham

Laboratory tests—Barrow-Agee Laboratories, Shreveport

Insulating board—Standard Building Supply Co., Shreveport Reinforcing steel — North Texas Iron & Steel Co., Fort Worth, Tex.

Roofing and sheet metal work—Dixie Roofing Co., Monroe, La., H. H. Bain Sheet Metal Works, Shreveport, and Ingram & Co., Fort Worth Painting and decorating—Brasted Lacquer & Spray Equipment Co., Wichita, Kan.

Steel bucks, kalamein doors and metal stools—Pinkston-Mason Co., Dallas, Tex. Floors-Brandt Floor Co., San Antonio, Texas

Electrical work—R & H Electric Co., Longview, Tex.

Gravel—W. D. Frazier, Benton, La.

Millwork — Victoria Lumber Co., Ltd.,
Shreveport

Common brick and tile—Waterman Brick & Tile Co., Waskon, Tex., and Hope Brick Works, Hope, Ark.

Building tile and fire brick—Acme Brick Co., Fort Worth

Flue lining—W. H. Dickey Manufacturing Co., Texarkana, Tex.

Ornamental iron — Southern Ornamental Iron Works, Arlington, Tex.

Lumber—West Louisiana Lumber Co. and Weaver Bros., both Shreveport

Cement—Lone Star Cement Company of Texas, Dallas

Shingle tile and mission ridges—Ludowici-Celadon Co., Chicago Excavating—S. N. Yarbrough, Shreveport Tile-Industrial Tile Co., Tulsa, Okla.



Aerial View of Barksdale Field Showing Part of Housing Development, With Warehouse, Garage and Machine Shop in Foreground

LETTERS FROM OUR READERS

Education

Baltimore, Md.

Editor Manufacturers Record:

After reading the editorial "Danger of Standardized Education" in your issue of November 26, I am reminded to refer to some correspondence I had in recent months with other alumni of the University of Virginia bearing somewhat along the line of thought of your editorial.

As I wrote to Dean J. M. Page, people harp upon the increase of detailed knowledge since Jefferson's time and urge that as an explanation for the cumbrous expansion of the average school or college or university curriculum. They forget that knowledge objectively is not the essential thing, but that the adequate development of the possessor of knowledge must be assured first of all. Mere facts can never educate. Education to you and me means, of course, the adequate drawing forth of the powers of a man. All the Jeffersonian philosophy as to university, politics, life as a whole, drive me to that sane conclusion. The university he founded tried to put that into effect through 80 successful years. Twenty-seven years ago we departed from those principles and during these 27 years we gave up our leadership in the educational world. Our efforts to standardize ourselves according to the anti-Jeffersonian philosophy of things has forced us into the ruck of educational institutions.

The tendency toward standardized education in our higher institutions of learning is deplorable. It would be worse for our public school systems to be absolutely under the control of a standardized educational plan.

DECOURCY W. THOM.

Should Speed Up Public Work

E. E. Davis Company Designers and Contractors Chicago, Ill.

Editor Manufacturers Record:

I have read with interest your articles referring to price cutting.

This depression is going to last just as long as contractors, manufacturers and others continue to do business without a profit. As my business takes me throughout the country, I have occasion to talk with salesmen representing building material manufacturers, and I am surprised to note the consistency with which they are required to estimate and submit proposals on work they admit is below factory cost. Obviously, the buyer for the contracting firm is interested in securing such materials as may meet his requirements at the lowest possible price. He perhaps is forced, as a matter of self-preservation, to buy at prices he knows are lower than should be quoted. The old saying "Competition is the life of trade," certainly does not apply at the present time.

For some time I have been trying to

influence certain business leaders to form some sort of a plan to encourage the Government to place on the market, within the next few months, the large amount of building now contemplated, and to place this in the hands of contractors who are in a position to finance and have the ability to carry on the construction within a reasonable time, and in the best possible manner. Such a board as was organized shortly after we entered the war could perhaps control this in a manner that would, during this winter, produce a large amount of construction work, enabling the various manufacturers, sub-contractors and general contractors to realize a legitimate profit for the work they produce.

If the Government has funds to carry on the building campaign they have started, it certainly would be to the advantage of the entire building industry to put the work on the market within the next few months instead of extending it over a period of a year or more. This activity would aid employment and the building campaign could well be completed before private building would again be resumed. If the work is delayed until private building starts, most of the Government work will be let at a much higher price than that at which contracts are now being awarded, and perhaps this difference would more than offset the additional expense the Government may be put to in the event such a board is organized, as suggested, to speed up the work.

Your timely articles are always interesting and I have enjoyed the comments of other manufacturers and builders urging that profitable prices be maintained.

E. E. Davis, President.

The National State of Mind

The State Port Authority of Virginia Norfolk, Va.

Editor Manufacturers Record:

The article, "The South's Intangible Asset," in your issue of November 26, is interesting, and impels me to say that I believe much of the trouble of the recent past has been due to a wrong mental attitude.

The railroads of the country are confronted with a serious problem; but, is not a large part of that trouble due to over-reaching during the periods of prosperity? The railroad managers are human and, like the rest of us, got to living in a prosperity atmosphere, with a depression income, during the "after the war" period. Many of the railroads are suffering from too much expansion, based on the theory that prosperity would last always. If they get down to earth and adjust themselves to present day conditions, they won't find present-day conditions nearly as bad as their nerves at present might indicate.

Speaking of mental attitude: Recently, in New York, I called on an official of one of the country's major industries. He appeared glad to see me, as I had something of interest to talk to

him about; but, just after our conference started, he turned his attention to stock market prices. Such an official hardly can concentrate on the problems confronting him officially, and that same atmosphere is quite prevalent in too many of the offices of the major industries and many of the railroads as well.

Business in Tidewater Virginia is good—with some exceptions, quite naturally; but, in this community generally, there is very little unemployment above that of the average year. Hampton Roads port's business is holding up remarkably well, our imports showing a consistent increase over last year.

If we will all realize that worry does not help; that it only interferes with the problem ahead, we will all be better off, and: Business is just as good as one makes it, in any event.

W. A. Cox. Director of the Port.

Railroad Freight Rates

Bradenton, Fla.

Editor Manufacturers Record:

I have read with a great deal of interest what you say about the predicament of the railroads. I appreciate what the railroads have meant to the development and progress of the United States; but, the side that I am especially interested in relates to the earnings of railroads. I am an equal partner in a farm that over a period of five years has paid the railroads above \$20,000 a year freight, and over that same period of years the farm has not averaged one-fourth of that amount, net, to us as owners.

I cannot help but feel that, when the railroads are taking almost everything the farm makes, as in our case, the growers do not feel very kindly toward the railroads when they are in a jam. I think if the railroads would cut their freight rates 25 to 40 per cent they probably would do a thriving business, and probably would stop the thousands of trucks that are now tearing up our highways with business that should go to the railroads. It is a proven fact that trucks can haul our celery and other commodities to the markets for less than half the money that the growers are paying to the railroad companies, and the trucks are making good money in this work. There is an ever-increasing number of trucks coming to our fields and hauling away our products, taking business away from the railroads because their prices are prohibitive.

I am passing this along as one who has suffered under the freight rates which we have had to pay over a long period of years. In this day, when the average man cannot earn one-fourth of what he could a few years ago, we can see no possible excuse for still paying the scale that is being paid by the railroad companies and, until the railroad companies use more executive ability than they have been using, they will be having a continued period of grief.

F. EMORY SHARP.

IRON, STEEL AND METAL MARKET

Steel Production in Seasonal Decline

Pittsburgh, December 7-[Special.]-Steel trade activity is slipping as usual with the approach of the year-end. Buying in various lines has been tending to diminish for a fortnight or more, and actual production of steel ingots, maintained for four weeks at approximately a 29 per cent rate, decreased last week to not over 28 per cent, further decreases being expected. It has been the regular and invariable thing for steel production to begin increasing immediately after the turn of the year and predictions of an increase this time are based on the precedent rather than on a survey of present conditions.

It has been traditional in the steel trade that when there is depression a substantial improvement is likely to come either in March or in September or October, and the tradition was verified by the manner in which recovery came from the depression centering in 1921, for in 1922 there were successive monthly increases in steel production through June, then a little lull partly seasonal and partly due to the great coal strike, October being then the best month of the year, with slight further gains in November and December, almost the entire course through the year being different from the seasonal swings seen in ordinary years when there were no important changes in general business

Some price weaknesses have come to light, causing concern to sellers and disturbing buyers. For about four months there had been a very stable market, quite satisfactory to sellers except that some prices were held to be too low, and pleasing to the great majority of buyers who felt safe and relieved from the necessity of shopping around to make sure of buying at as low prices as competi-

On October 1 tin plate was reduced \$5 a ton but this was regarded simply as an annual adjustment, a downward influence having accumulated since the preceding price change on the preceding October 1, also a reduction of 25 cents a box. Late in October, hot and cold rolled strips declined slightly but that was not regarded as having any particular bearing on steel products in general. Developments since then have been of more interest. Some shading on sheets appeared in the Detroit area by way of automobile trade buying and the market in the South became very

irregular, the regular Birmingham base becoming practically nominal. Then last week the Chicago market openly recognized prices on fair sized lots of shapes and plates at \$2 a ton under the previous market, while some reports included merchant bars in the decline. Bars have remained very steady in the Pittsburgh market, but shapes in quite moderate sized lots have been going at under the regular quotation, which hitherto has been 1.60c, Pittsburgh, and 1.70c, Chicago, on bars, shapes and plates.

Usually there has been much more contracting for the first quarter than for other quarters of the year, but with the present dullness and with some uncertainties cropping out as to prices there may not be much first quarter contracting this time, jobbers and consumers simply continuing to buy from time to

Nails and cognate wire products may be an exception to this generalization. Nails were advanced from \$1.80 to \$1.90. to jobbers, and large jobbers stocked up at \$1.80, still having fair sized stocks. The market has been strictly maintained at \$1.90 but sales have naturally been small. Predictions are that to establish \$1.90 in actual deliveries the price will be advanced to \$2.00 and some covering be permitted at \$1.90.

Much the same as for a couple of months past, there are reports of automobile production being about to increase. Steel sellers doubt whether the automobile makers have very definite programs, as all they can do is to bring out new models at what they consider a strategic time and then await the public's buying response.

The farm implement industry is running at its recent moderate increase, with no long term program. Railroads are making practically no commitments, awaiting outcome of negotiations as to wage reductions.

Improved Pig Iron Demand Anticipated in Birmingham District

Birmingham, Ala., December 7-[Special.]-The turn of the year will see increased production in many directions, especially in steel. Coal, coke and pig iron may not feel any change for the better immediately, so far as production is concerned, but there will be improved demand for pig iron and consequently reduction of surplus stock. Lettings for cast iron pressure pipe are still coming in and there is renewed for the Pullman Car & Manufacturing

hope that operations now estimated at 40 per cent capacity will have to be kept steady. New business is expected not only from sections where pipe laying is possible the year through but also from those places where steps are being taken to relieve unemployment.

Fifteen hundred and more men have been placed at work in the Birmingham district recently and the number will be augmented this week, with a view to giving the unemployed an opportunity to earn wages before the winter is over. The city is using upwards of 1000 men in sanitary sewerage work, having retained funds from a recent bond sale. Industrial concerns are using labor in preparing for an early resumption at plants, 500 men or more having been put to work already, with another 500 due to take up tools, either in a little spurt of production or getting ready for the coming month. Three blast furnaces are being put into shape at Ensley-Fairfield. six open hearth furnaces are to be overhauled and made ready for ingot production. The rail mill is being surveyed and made ready for operation later on. Increased production is noted in some of the other mills, wire and wire products to be made up in anticipation of improved demand.

Six blast furnaces are in operation in Alabama; the steel mill operations are being maintained at 30 per cent capacity, based on ingot production; coal output. despite unseasonable weather conditions, has maintained a better production than 50 per cent normal; coke make is 50 per cent normal, half of the 1390 ovens at by-product works being in operation; Portland cement mills are going about 60 per cent capacity, with a drop of 10 per cent due this month, until late winter when activity in the commodity opens up again.

Structural steel fabricating shops will go through the last month of the year on a 40 per cent pace, if not better, having a fairly good backlog, with small tonnage orders still coming in. Plate steel fabrication is unchanged. Smaller shapes of steel are finding only fair demand. This includes reinforcing concrete steel bars and flat shapes.

Pig iron prices remain at \$12, No. 2 foundry, for home territory and \$11 for iron shipped elsewhere. Demand from outside is practically nil.

Bierman Brothers, who purchased the slag pile of the old Tennessee Coal, Iron & Railroad Company blast furnaces at Bessemer, which were built more than 25 years ago and gave way to the site

Corporation works, are now recovering spite the bargain prices in tin, consumferro-manganese and ferro as well as the ordinary furnace slag. Good market is being obtained for all the refuse, \$79 per ton being received for ferro-manganese which is hand-picked from the slag pile.

Quotations for pig iron and iron and steel scrap in the Birmingham district are as follows:

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50; iron of 2.75 to 3.25 per cent silicon, \$13.00; iron of 3.25 to 3.75 per cent silicon, \$13.50

OLD MATERIAL

Steel rails	\$10.00	to	\$11.00
Steel axles	12.00	to	13.00
Iron axles	12.00	to	13.00
Heavy melting steel	7.50	to	8.50
No. 1 cast	9.00	to	10.00
Stove plate	7.00		7.50
No. 1 R. R. wrought	7.00		7.50
Car wheels	8.00		9.00
Tramcar wheels	8.50		9.00
Machine shop turnings	3.00		3.50
Cast-iron borings	3.00		3.50
Rails for re-rolling	10.25	to	11.00

Metal Prices Remain at Low Levels

New York, December 7-[Special.]-The past week found most of the major metals still selling at the low points of the year, if not for the century. Early in the week tin was making new low levels since 1899 when weak sterling exchange forced down the American price for this British metal. The price of zinc hovered around 31/sc per pound, East St. Louis, which coincides with the low point of the year, but rallied somewhat later. Copper has sold as low as 61/4c per pound, a new low for all time, though prices are slightly higher now. Lead prices hold \$2 per ton above the 1931 bottom point and business in this metal has been the briskest and steadiest among the metals.

Commodity prices in general average the lowest so far this year, the metals having been important factors in dragging down this composite figure. Operations in the steel industry are fairly constant at around 29 per cent of capacity, though the tendency is toward declines as is natural for this time of year. The automobile industry is an important purchaser of non-ferrous metals just now, with production of cars and trucks the heaviest in several months. Less metals are being consumed in building construction. Government figures for fabricated structural steel sales for October revealed the smallest sales for any one month in many years.

Weakness in shares on the New York Stock Exchange has exerted a harmful influence on metal sentiment. Usually consumers of the metals are poorly stocked. In the case of consumers of tin and copper conditions are different. Deers are not buying freely inasmuch as they laid in ample supplies on previous recessions of the market. The same holds good for copper.

Events in copper have been shaping up rapidly. The Phelps Dodge Copper Corporation has given 30 days notice of withdrawal from Copper Exporters, Inc., this company being one of the largest American producers. During the week also it was cabled from Brussels that the Belgian copper producers would accede to the wishes of the majority relative to the curtailment of production. In other words, officials of the Belgian company in Africa, the Union Miniere de Haut Katanga, are willing to produce at the rate of 181,000,000 pounds annually, having previously held out for a production of 200,000,000 pounds a year. Of this 181,000,000 pounds, the agreement is to store and not sell about 66 .-000,000 pounds a year.

The agreement of the international copper producers is by no means complete as yet. Smaller copper producers are yet to be persuaded to fall into line, particularly the Miami Copper Co. and the Hudson Bay Mining & Smelting Co. Moreover it is said that changes must be made in the sales methods of Copper Exporters, Inc. One objection to the present system is that the export price is invariably a quarter to a half cent per pound higher than the actual domestic price; another is that no quota sales arrangement applies to furnace-refined copper, only electrolytic copper being included, the reformers being anxious to include all grades and processes of copper in the marketing plan.

When it was announced that the Belgians had agreed to the curtailment plan the price of copper was raised nominally from 61/4c to 63/4c in one day. However the higher price was one in name only for actual sales were made at 61/2c per pound at home and at 7c for export. It seemed at one time as though the domestic price might become 7 cents, but the optimistic sentiment on this score was short-lived.

Export sales of copper during November totaled 55,000,000 pounds, compared with 71.500.000 pounds in October and 43,000,000 pounds in September. Export sales abroad during the past week have been irregular day by day and in a small aggregate. Officials of the Phelps Dodge Corporation did not reveal their reasons for leaving the copper export association. According to one theory this Arizona producer believes that a high duty on copper is the only solution for the American industry. Another theory of the resignation is displeasure at the sales methods of the export body.

Lead business has been more active than with other major metals. Moreover sales by the Middle Western producers were better than in the East. In several instances producers were selling at a faster rate than they were producing and it is suggested that the next price change may be upward. Prices have been steady at 3.85c per pound, New York, and 3.65c, East St.

Silver dipped as low as 28%c per ounce during the week, though rose to 28%c later, the lower figure being the bottom price since Great Britain suspended the gold standard on September 21. Quicksilver dipped to the new low for several years of \$64 per flask of 76 pounds, but firmed to \$67 later.

Four platinum producing countries have organized a central selling agency whose purpose is to regulate sales and stabilize prices. The formation of a new aluminum cartel has also been announced, having taken in Canada for the first time. The United States stays outside the organization.

More Steel Workers

The Carnegie Steel Company, Pittsburgh, has recalled 5000 men at the Edgar Thomson Mills in Braddock, Pa., and indicated that more men might be employed shortly.

Bethlehem Steel Corporation has employed several hundred extra men at mills in the Conemaugh district near Johnstown, Pa.

McKeesport (Pa.) Tin Plate Co. has placed 3000 part-time workers on a fulltime schedule, which it expects to maintain until well into the winter and possibly through the spring.

Canton Tin Plate Corp., Canton, Ohio, which started operations on December 1, 1930, was working 100 per cent on its first anniversary, and averaged 92 per cent for the entire year. It has 450 men employed and the present rate of incoming orders indicates full operation will be continued indefinitely.

Navy Orders 93 Airplanes

Washington, D. C .- As a part of its 5-year replacement needs, the Navy Department has purchased 93 airplanes at a cost of \$1,744,311, thus completing its quota a year ahead of schedule. The latest purchase covers observation machines, the contract going to the Chance Vought Airplane Corporation of East Hartford, Conn.

The Ladd Lime & Stone Co., Cartersville, Ga., is filling an order for 12,000 tons of roadbuilding materials for use on a project near Villa Rica, Ga.

HIGHWAYS AND MOTOR TRANSPORT

Need Seen for Continued Appropriations to Maintain Volume

"Federal funds for road building is one of the greatest stabilizing factors in the current business period," declares W. C. Markham, executive secretary of American Association of State Highway Officials Washington.

Mr. Markham called attention to the employment of over 350,000 men in building roads on the state highway systems in 1931. He also pointed out that "although Federal Aid embraces only about one-tenth of the money actually spent in state road betterment the effect of this Federal assistance is to stimulate the states to much greater activity than if little or no Federal Aid had been granted."

"The need for improved highways in the United States is so acute that everyone should be in favor of the method that will bring the most roads," said Mr. Markham. "To those who have studied road building it is quite apparent there is no better way than through Federal government guidance as it is provided through Federal Aid. Federal Aid, therefore, is doubly valuable at a time like this when men need work.

"It is indeed fortunate that Federal monies will be extended on a fairly large scale during coming years. Thousands and thousands of the men employed in road work this year would have been out of jobs if these funds had been curtailed. The 350,000 road men at work in 1931 represented, considering their families, some 1,500,000 individuals. Federal participation was responsible for the wellbeing of at least a third of these people.

"On the other hand it would be distinctly unfortunate if Federal cooperation were to be reduced in any degree, for the history of state road building shows that not only has Federal Aid led the states to think in progressive terms but also to apply more energy and devote more money to road building than they otherwise would have done. Business conditions are such that public construction as a bulwark against unemployment is vividly revealed. To reduce Federal funds would be to add materially to the nation's jobless.

"It would be a different matter if the need for smooth travelways were not so great. But as it is, the cost and inconvenience of motoring must be reduced. Money properly spent on road improve-

FEDERAL AID ROAD WORK ment, as is every nickel that comes under the supervision of the Federal Government, saves as much or more for motorists. Further, bargain prices in construction work now prevail. Today's dollar is buying more roads.

> "All things considered, particularly from the standpoint of providing work for large numbers of men, the Federal Government participation assumes a magnificent importance and the country can be thankful that this plan is in operation."

County Bridge Proposed

Beaumont, Texas-The State Highway Department has been requested by the Jefferson County commissioners' court to apply to the War Department for permission to construct a \$677,000 bridge at the Dryden crossing of the Neches River on the Port Arthur-Orange road. Tentatively, the project calls for a bascule type structure with a horizontal clearance of 300 feet, a 22-foot roadway and a length

A Maryland Bridge Completed

The \$500,000 bridge over the Nanticoke River in Maryland, connecting Dorchester and Wicomico counties, was completed recently by the State Roads Commission and is now in use. The structure is 1016 feet long, including an 80foot channel opening provided with a double leaf bascule span, and affords a 20-foot clear driveway. It is of reinforced concrete girder type on 90-foot concrete piles. The 1.2-mile approach in Wicomico County was made by hydraulic fill pumped from the river bed, involving approximately 350,000 cubic yards of material. The bridge shortens the route from Cambridge to Dorchester by about nine miles.

General contract was awarded to Sanford & Brooks Co., Baltimore, July 21, 1930, and the bridge was opened to traffic November 10, 1931. Additional contracts were awarded as follows: Bascule, A. S. Fox, Dayton, Ohio; lighting, Greenwood Electric Co., Philadelphia, Pa.; fill approach, Sanford & Brooks Co.; paving approaches, P. D. Phillips & Bro., and Layfield & Waller Paving Co., both Salisbury, Md. Officials in direct charge of the project included: Harry D. Williar, Jr., chief engineer, Maryland State Roads Commission; Walter C. Hopkins, bridge engineer; P. A. Morison, district engineer, and Benjamin LeSueur, inspec-



Costing \$500,000 This New Reinforced Concrete Structure Spans the Nanticoke River in Maryland

NEW AND IMPROVED EQUIPMENT

Tapping Sleeves and Valves

The Mueller Company, Decatur, Ill., announces a complete new line of tapping sleeves and valves for making lateral or branch connections to mains under heavy pressure. Heavily built for strength and rigidity, the sleeves permit use of any type joint on bell and spigot mains and



Mueller Valve

have a maximum number of rust-proof bolts. The gasket surface is raised machined and grooved. Ears on the gasket hold it in place while bolting the sleeve together. The cast rings inside the sleeve permit yarning and caulking the ends



Flanged Outlet Sleeve

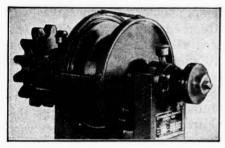
and save lead. Two back halves may be used for repair sleeves, and two front halves for double connections.

Elimination of trouble is a feature of the simple mechanism of the strongly designed valves. The gates are forced out against the seats when closing, producing shearing action which cleans the seats. A reverse wedge mechanism pulls the gates from the seats before opening, thus preventing scoring of seating surfaces. The ball wedge on the gates permits them to assume the angle of the seats. A stop and guide valve bonnet

prevents the raising of the gates out of contact with the seats and assures easy closing. Spreading lugs prevent foreign matter being deposited to interfere with complete closing. The stem, wedges and seating surfaces are made of special Mueller bronze.

Semi-Automatic Dipper Trip

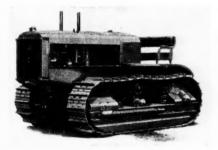
The Universal semi-automatic dipper trip is announced by the Morin Manufacturing Co., Holyoke, Mass. It is made to fit any shovel and consists of a shaft running continuously, driven by one of the shovel gears. On this shaft are mounted two friction discs and a drum: a small spring-actuated disc to take up the slack in the trip line, and a larger disc to trip the bucket. The small friction disc exerts a line pull of approximately seven pounds, or enough to hold the cable without slack. The large disc will exert a pull up to 400 pounds, sufficient to trip the latch. Control of the device is made a part of one of the regular operating levers.



A Compact Unit, Made to Fit Any Type of Shovel

Track-Type Tractor

The Allis-Chalmers Manufacturing Company, Milwaukee, Wis., has announced a new six-cylinder track-type tractor, built to meet modern demand for a powerful and fast, heavy duty, easily handled machine. Designated as Model "L," the new tractor has six forward speeds ranging from 2 to 6½ miles an hour, and is equipped with force feed lubrication; oil, air and fuel filters; removable cylinder sleeves, and other features. A low center of gravity, combined with high road clearance, enables



A Heavy-Duty Machine, Fast and Powerful

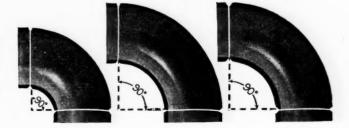
it to handle the largest elevating graders in practically all workable conditions of road and soil, as well as the largest snow plow in heavy drifts. With a pleasing stream-line appearance, the new tractor takes its place as a big brother to the company's well known

"Series 1R" Tube-Turns

Tube-Turns, Incorporated, Louisville, Ky., announces a new series of seamless uniform-wall fittings for pipe welding. Designated as "Series. 1R," this latest development completes the Tube-Turn line and affords 45 degree and 90 degree elbows and 180-degree return-type fit-

tings for welding in sizes from ¾ of an inch to 20 inches and in virtually all weights required for modern piping. Tube-Turns are manufactured under an exclusive process to insure uniform wall thickness and the same inside and outside diameter, and wall tolerance, as the pipe with which they are used. This facilitates lining up and welding.

All Tube-Turns
Are Seamless
and Have
Uniform Walls



Constructive Life Insurance Work

The enterprise of the All States organization in three short years has become a factor in the economic development of the South and an influence for great good among the people—Its atmosphere is a tonic to the South under all conditions—Its own growth is remarkable.

By George Garner, Editorial Staff, Manufacturers Record

EVELOPMENT of the life insurance business on established lines, but in unique fashion, by a young Southern company has been of a constructive value in these times of stress which cannot properly be pictured in cold statistics. Thousands of individuals, particularly of youthful years, have been fortified financially. Education, especially in the university grade, has been substantially furthered and will be progressively advanced. The economic influence in several Southern States and many cities and lesser communities has been concretely beneficial.

The ALL STATES LIFE INSURANCE COMPANY, with headquarters at Montgomery, Ala., will celebrate its third birthday on January 2 with more than \$20,000,000 of insurance in force, with resources approximating \$1,000,000, and with 15,000 policyholders, in round numbers. Also, it recently absorbed the Fidelity Life of Birmingham, Ala., with \$3,500,000 of insurance in force and an agency staff writing about \$2,300,000 a year. The All States sphere of activity is expanding steadily beyond Alabama, Georgia, Mississippi and Tennessee, its original area.

The tremendous value of life insurance to the American people is only slightly glimpsed in the fact that \$2,642,000,000 was paid to beneficiaries in the latest calendar year, of which 82 per cent was on small policies. No factor in the economic life is more vital than the influence, the stability and the success of well managed life insurance companies. Their investments, guarded and wisely directed as they are, stand as a bulwark in time of stress.

Indication of the influence of the All States Company in the economic welfare of the Southern States is barely shown by the one fact, among many, that it holds \$547,000 in bonds of Alabama and its counties and larger cities, and \$150,000 in first mortgage loans in the city of Montgomery, alone. Its intimate personal relations with each individual policyholder have inspired in all a

spirit of confidence and independence equal in its way to the financial security provided for each one. And as sound foundation for this spirit in its clientele the company has established a ratio of solvency at 697 per cent, or \$6.97 of assets with which to meet each dollar of liabilities. Not one dollar of asset principal or interest has been lost by the All States; no bank in which it has carried funds has closed its doors, and it can lay its hands at any moment on every penny of its cash resources.

The Washington correspondent of the old New York Herald once received a telegram from his editor: "There is something in the air—get it." It is related that he fainted. Yet, it is literally out of the atmosphere of the All States organization that one gathers the factors which have established it in three short years as a successful business enterprise, as a feature in the economic, the social and the educational spheres of Southern life, and as an acknowledged inspiration to other companies in life insurance lines.

From its records, one gleans the prosaic fact that the ALL STATES LIFE INSURANCE COMPANY was organized on January 2, 1929, with \$458,000 of capital. From its officials one learns that it offers all standard forms of life insurance and endowment insurance and annuities, including institutional endowments, children's educational endowments, old age pension funds, group, wholesale and salary savings insurance. Further, it has in force group policies covering virtually \$3,000,000 of insurance under employee-employer relationships; and, so on. The general surplus for protection of policyholders is close to \$750,000.

It is in the atmosphere of the organization, however, that one finds the intangible aliment which vitalizes the company, which furnishes the driving force, and maintains the stamina unimpaired. The atmosphere pervades the entire company group — the agents in the expanding fields as well as the executives at headquarters. Outstanding in

this atmosphere are confidence in the company, firm faith in the South, loyalty and enthusiasm, initiative and even ingenuity.

"I enlist my aides to do what I do not have time to do, myself, and I expect them to recruit their assistants for the same purpose," says President Ben W. Lacy. "All activity should be from the top down and not from the bottom up."

So it is that Mr. Lacy is at his desk bright and early every morning he is in town. So it is that every member of the office and field forces is alert and active and the work is performed, efficiently and with great cheer, by about one-third the number of office employes customary in an insurance enterprise of the same dimensions. No honorarium or fee is paid to the directors in attendance at board meetings; individually and collectively, their heart is in their work.

As chairman of the board sits Richard M. Hobbie, a business man of national repute. In the World War, he managed the Alabama area for the Food Administration, and in private life he is active in the operation of many successful business, financial and public utilities enterprises.

The selection of Mr. Lacy as president was made after profound consideration of a score of men outstanding in life insurance circles throughout the land. In a lifelong career in constructive insurance work, Mr. Lacy became established as a conservative leader, intent on profit for his company and the policyholders, alike. Excessive agency costs always have been repugnant to him, nor does he utilize policy forms not productive of both financial and humane gain. From a minor actuarial place in youth, he advanced steadily to executive positions of highest responsibility and to a reputation which has made his name a conspicuous asset to companies with which he has been connected.

Algernon Blair, Henry M. Hobbie, Frank MacPherson, I. Fred Solomon and Arthur Pelzer form a vice-presidential group of varied and successful business experience, and bring to the board sound judgment and ripe knowledge gathered in industry, commerce and banking.

Of Ralph D. Quisenberry, treasurer, it is said that "no one has a harder business head or a warmer human heart." As contact man between the staff and the line, these attributes of Mr. Quisenberry make his personality and his work of tremendous value.

Also in close contact with the field staff are W. Clyde Jennings, secretary and actuary, who is the director of the technical routine and activities of the home office, and R. A. Craighead, superintendent of agents, who would be called sales manager in any other line of work. The initiative, the enthusiasm and the loyalty of both are unbounded.

"Let me show you the spot where the little acorn was planted," says Mr. Jennings to favored visitors, and leads one to a single, modest room in which the company's head-quarters first was established. The growth of the oak is pictured in inspection of the successively larger suites, until one enters the great area of floor space now necessitated for office operations. Here, emphatically, the unusual atmosphere is discerned, in the absence of private rooms or partitions, in the location of the president's desk in the

open and in close contact with all other officials and the office workers.

The commander-in-chief must lead in action, is Mr. Lacy's theory and practice. The executive whose organization cannot function smoothly without his presence is a poor executive and a poor organizer, he further feels. So, Mr. Lacy's chair very often is vacant, as he goes into the field to do business himself and to inspire his agents. Also, he believes that a comparatively few highly trained men can do more and better business than a regiment of mediocre grade. The business is conducted absolutely on a commission basis and the new business from year to year is gathered without increase in percentage of cost. This fact gains tremendous significance in comparison with the company's increase of 273 per cent in gross premium income for 1930 over 1929, and proportionate continuing increase.

Most deeply interesting to a thoughtful observer, however, is the great influence for good, material and in morale, exercised by the All States Company in the educational and the youth life of the South. Through personal touch and intimate interest, it has enlisted ten universities and colleges, so far, in its insurance enterprise. Under strictly legitimate and established insurance methods, alumni obtain protection at lowest established insurance costs, and income is provided for the alma mater through payment of premium profits to the institution. Actually, the operation is a practice of sound, recognized insurance procedure; beyond this, it is constructive and productive practice carried on with unusual acumen.

Possibly, never has the value of personal contact been demonstrated in relatively greater measure than in the business of the All States Company—personal contact between the officials and workers within the organization, and personal contact with persons outside its circle.

"All forms of our policies are of the usual nature," Mr. Lacy explains, "but the company's work has developed largely through the personal activities of our officers and their immediate assistants. We work through cooperation within our organization and through personal contact with individuals with whom we hope to do business."

The atmosphere of the ALL STATES LIFE IN-SURANCE COMPANY is a business tonic in all its area, and may well be described as an asset of genuine value to all the South.

CONSTRUCTION DEPARTMENT

Covering
the initial
announcements
of new undertakings with
additional informationabout
enterprises previously mentioned. The date
at the end of at the end of an item indi-cates prelimi-nary facts were given in a pre-vious issue.

NEW ENTERPRISES

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Florida—American Eagle-Lincoln Aircraft Corp., Victor J. Roos, Pres., Fairfax Airport, Kansas City, Mo., reported, considering sites in Florida for factory; Jacksonville, Tampa, St. Petersburg and Miami under considera-tion.

La., Barksdale Field, Shreveport—Capt. Geo. E. Lamb, Constructing Quartermaster, let contract to Kirkwood, Wharton & Lee, 523 N. Flores St., San Antonio, at \$77,816, for storm drainage system.

Mo., Kansas City-See Roads, Streets and Paving.

Mo., Monett—City, J. M. Russell, Mayor, reported, interested in establishing airport. Okla., Oklahoma City—City, reported, will probably call for new bids for construction of hangar; L. M. Bush, City Engr. 11-12

Okla., Tulsa—Roy Tanner Paving Co., Tuloma Bidg., Tulsa, reported, low bidder at \$17,000 for runways and parking strip at Municipal Airport; W. F. McMurray, Conslt. Engr., 15 W. Seventh St.

Engr., 10 W. Seventh St.

Tex., Palestine—City, S. E. Reed, Mayor, reported, completed purchase of 262 acres 5 miles west of city for airport.

Va., Langley Field—Constructing Q. M., receives bids Dec. 15 for heating plant and repair of L. T. A. mechanic shop; plans, etc., from Quartermaster.

Bridges, Culverts and Viaducts

Proposed Construction

Ala., Birmingham—City Comsn. agreed to pay half cost of underpass to connect Lake-view School ground and Underwood Park, if Bd. of Education will pay remaining half.

D. C., Washington—Public Buildings and Public Parks Comsn., Room 1613 Navy Bldg., opens bids Dec. 30 for constructing steel bridge carrying Rock Creek and Potomac Pkwy. over Rock Creek, L St., N. W.; 168 tons struc, steel, 1030 cu. yd. rein. conc., 47 tons rein. steel, 10 m. b. m. creosoted timber. timber.

Georgia—State Highway Bd. receives bids for 11 bridges—See Roads, Streets and Pav-

Georgia-See Roads, Streets and Paving. Georgia—See Roads, Streets and raving.
Ga., Atlanta—Fulton County Comsn. accepted loan from First National Bank to pay county's share of replacing Whitehall Peachtree viaduct; cost \$41,600; C. E. Kauffman, City Bridge Engr., has plans complete.

11-26

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 4 bridge projects in following counties:
Cecil—substructure, superstructure (with exception struc. steel span over railroad tracks, approaches, etc., for grade elimination over relocated tracks Pa. R. R. Co., Bridge St. Elkton, Ce-77-23, Henry L. Maas & Sons, Inc., 1119 Ensor St., Baltimore, \$90,014: fabrication and erection struc. steel girder span for grade elimination over relocated tracks Pa. R. R., Bridge St., Elkton, Ce-123-23. Phoenix Bridge Co., Phoenixville, Pa., \$885;

Montgomery—removal rein. conc. viaduct over Sligo Branch, Carroll Ave., Takoma Park, M-197-37, Forbes-Murphy Construction Co., 926 St. Paul Place, Baltimore, \$2000;

Queen Anne's—removal earth-filled west causeway at site of removed highway bridge, Kent Island Narrows, Q174-28, Bran-dywine Construction Co., Wilmington, Del-\$2857.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Dec. 15 for 2 bridges in following counties:

Anne Arundel—substructure, approaches, etc., for bridge over Patuxent River, road from Upper Marlboro to Mt. Zion, known as Hill's Bridge, AA-121-87;

Cecil—triple span conc. girder bridge, road from Elkton to Chesapeake City over Elk River, Ce-112-27.

Mo., St. Joseph—Buchanan County Court ordered repairs on 4 bridges.

Missouri-See Roads, Streets and Paving.

Oklahoma—State Highway Comsn. receives bids for 4 bridges. See Roads, Streets and Paving.

Oklahoma—State Highway Comsn. receives bids for 11 bridges. See Roads, Streets and Paving.

Texas—State Highway Comsn. let contracts for 9 bridge projects. See Construction News—Roads, Streets and Paving.

Texas—State Highway Comsn. receives bids for 3 bridges. See Construction News—Roads, Streets and Paving.

Tex., Houston—See Roads, Streets and Paving.

Va., Ivy Depot—State Highway Comsn., C. S. Mullen, Ch. Engr., Richmond, may improve bridge over C. & O. Ry.

Va., Portsmouth—City Council adopted resolution requesting State Highway Comsn., C. S. Mullen, Ch. Engr., to replace wooden draw bridge over Western Branch of Elizabeth River between Waterview and Churchland with modern structure.

Canning and Packing Plants

Fla., Plant City—I. M. Allen, reported, erect packing house on Seaboard Air Line spur eastern part of city.

Cotton Compresses and Gins

Miss., Como—T. B. Harris, Como, reported. has contract for rebuilding plant of Federal Compress & Warehouse Co.; erect shed covering 2½ acres in addition to other buildings.

Miss., Gulfport—See Micellaneous Con-struction. 11-5

Tex.. Bledsoe—Bledsoe Gin Co., incorporated; John T. Allen.

Cottonseed-Oil Mills

Ark., Forrest City—Forrest City Cotton Oil Co., Philip Hickey, Local Mgr., reported, rebuild burned seed houses and install new cleaning equipment; mill is branch of East St. Louis Cotton Oil Co.

Drainage, Dredging and Irrigation

Louisiana—U. S. Engineers Corps, War Dept., Washington, ordered detailed survey of Bayou Lafourche, Donaldsonville to Lock-port; 60 ft. wide, 5, 6 and 9 ft. deep; Maj. R. F. Fowler, Dist. Engr., U. S. Engr. Office, New Orleans.

Louisiana—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine St., New Orleans, opens bids Jan. 5 for dredging Louisiana and Texas Intracoastal Waterway, Missisippi River-Atchafalaya River Section, Harvey to Bayou Blue, 6,554,100 cu. yd., place meaurement.

Texas — Channel Change — See H Streets and Paving—Caldwell County.

Streets and Paving—Calawen Councy.

Tex., Freeport—U. S... Engr. Office, Galveston, let contract to Gulf Coast Dredging Co., Inc., 2311½ Ave. C, Galveston, at \$21,641, for dredging 335,000 cu. yd., place measurement, including 95,000 cu. yd. overdepth.

Tex., Galveston—U. S. Engr. Office let contract to Standard Dredging Co., 233 Broadway, New York, and 323 Guaranty Bidg., Galveston, at \$150,846, for 3,251,000 cu. yd., place measurement, including \$15,000 cu. yd. overdepth dredging in Galveston Channel.

Texas—U. S. Engr. Office, Galveston, let contract to Atlantic, Gulf & Pacific Co., Park Row, New York, for dredging Louisiana and Texas Intracoastal Waterway through parts of Chambers and Galveston Counties. 10-15

War Dept., Washington, D. C., reallotted \$178.500 of balances remaining from previous allotments to other rivers and harbor projects in South Atlantic Div.: Cape Fear River, N. C., at and below Wilmington, \$137,400; Occohannock Creek, Va., \$3000; Savannah River, below Augusta, Ga., \$26,500; Satilla River, Ga., \$5600, and St. Mary's River, Ga., \$6000.

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ark., Yellville—J. H. Gardiner, Dist. Engr., U. S. Geological Survey, Fort Smith, reported, has work under way preparatory to beginning construction work on Cotter Dam for White River Power Co., Pine Bluff. 10-23 Ky., Owingsville—Bath County Fiscal Court, reported, granted franchise to Kentucky Utilities Co., Louisville, to construct power lines along public highways and streams of county for transmission electricity to all parts of county.

Mo., Joplin—City, reported, soon let contract for underground conduit lighting system at Schifferdecker Park and for swimming pool.

Mo., Lees Summit—See Water Works.

Mo.., Lees Summit-See Water Works. Mo.., Lees Summit—See Water Works.

North Carolina—National Electric Power
Corp., 57 William St., New York, eastern
unit of Middle West Utilities Co., 20 N.
Wacker Drive, Chicago, Ill.; acquired municipal electric systems of Beaufort, Newport
and Morehead City; purchases confirmed by
vote of people; will be operated by Tide
Water Power Co., Wilmington, a subsidiary.

11-26

Texas—Wirtz & Weinert, Atty. at Law, Seguin, attorneys for Central Texas Hydro-Electric Co., advise conveyance of Emery,

Peck & Rockwood Development Co., 208 S. LaSalle St., Chicago, Ill., to Central Texas Hydro Electric Co. was in accord with original plan of developers of this project; development company was formed for purpose of acquiring certain rights and propertits, with idea that they would later be conveyed to operating company to be formed for that purpose and with a capital set-up in accord with plan of permanent financing; Central Texas Hydro-Electric Co., was formed for this purpose, and has practically same stockholders, directors and management as development company; no change in plans has been made, or will be made as result of transaction; original contracts made with this transaction in view and work has gone on without interruption.

Garages and Filling Stations

Fla., Miami Beach—T. B. McGahey Motor o., Inc., capital \$25,000, incorporated; T. McGahey, 2066 N. Bayshore Drive. Co., Inc., ca B. McGahey,

Ga., Atlanta—10 Minute Service Corp., 98 Ellis St., reported, construct filling station same location; 1 story; brick and conc.; tar and gravel roof.

La., New Orleans—Albert Schwartz, Inc., Carondelet & Lafayette Sts., reported, construct 75×104 ft. garage and oil station; masonry walls; steel construction; steel sans, Jaques de Tarnowsky, Engr., 1937 Esplanade

Md., Baltimore—Charles Beal, Jr., 130 S. Hilton St., reported, has contract for 4-car garage for Harry Scherr, 1700 N. Monroe St. Md., Baltimore—Wm. D. Jacobson, Nelmar Apart., reported, construct filling station 3225 Barclay St.; owner builds.

Md., Baltimore—Sherwood Bros., Baltimore
Trust Bldg., reported, have plans by R. I.
Welsh, for filling station Liberty Heights
Ave. and Western Md. R. R.; 1 story; brick.
Md., Baltimore—Standard Oil Co., Standard
Oil Bldg., reported, erect filling station Calvert and Federal Sts.; 1 story, brick and

Md., Baltimore—Fred Keller & Son, 3405 Echodale Ave., reported, have contract for filling station 2500 Oak St., for Standard Oil Co., Standard Oil Bldg.; 1 story; brick

Mo., Richmond—Capitol Auto Supply, incorporated; Fred J. Taber.

N. C., Asheville—Central Oil Co., Inc., First Natl. Bank Bldg., Charlotte, reported. construct filling station Haywood Rd. and Westwood Place.

N. C., Charlotte—R. J. Davis Service Station, Inc., capital \$25,000, chartered; R. J. Davis, 2134 Sherwood Ave.

Tex., Amarillo—Texas Tire & Storage Co., incorporated; Harry C. Badger.

Tex., Amarillo—Texas Tire & Storage Co., incorporated; Harry C. Badger.

Tex., Breckenridge—McMurty Knight Motor Co., incorporated; J. L. McMurty.

Va., Alexandria—Ford Motor Co., B. J. Craig, Sec. & Asst. Treas., Detroit, Mich., has 6-acre site on Potomac River at foot of Franklin St., erect building to replace company's present service branch Pennsylvania Ave. and John Marshall Place, Washington; site fronts 424 ft. on Potomac River at foot of Franklin St. will receive shipments by water and rail; erect 1 story unit with floor area of 80,000 square ft.; building will front 200 ft. on river and have depth of 400 ft. with 260 ft. conc. dock along pierhead line; offices and a garage will occupy front of building, balance of building will provide space for enameling department, service, stock and car distribution; an unloading platform will be served by spur of Southern Ry.

Gas and Oil Enterprises

Ark., El Dorado—Root Refineries, Inc., will repair burned unit of refinery.

Ky., Glasgow—Boyd's Creek Oil and Gas b., capital \$25,000, incorporated; Otto utzow, Jr. Co., c Lutzow

Co., capital \$25,000, incorporated, Otto Lutzow, Jr.

La., Shreveport—Southern States Refining Co., R. B. Walker, 223 E. Egan St., reported, constructing 1000 bbl. Effenery on Mooringsport Rd.; tankage for refinery being erected, consisting of three 1000 bbl. tanks and eight 200 bbl. tanks; tanks being installed by Moran Co., Picou-Brewster Bldg., Shreveport; will use East Texas crude oil brought in by tank cars; work of installing still will be started at once.

Miss., D'Lo—City, reported, granted gas franchise to Mississippi Public Service Corp., Frank K. McGehee, 5214 Vanderbilt St., Dallas, Tex.; same company has franchise at Medanhall, Collins, Mount Olive.

Mo., St. Louis—Bestolene Oil Co., incorporate in the contract of the contract

Mo., St. Louis—Bestolene Oil Co., incorporated; Jacob E. Silberman, 5631 Wells

Oklahoma—Ajax Pipe Line Co., Wilhoit Bldg., Springfield, Mo., J. R. Dies, V. P.-

Gen. Mgr., advises not aware of plans being under way for 10-in. line to be laid from Glenn Pool, Okla., to Wood River, IH.; have no information that this line will be built.

Okla., Bristow—Producers Refining Co., J. W. Koonce, Supt., reported, plans \$100,000 expansion program.

Texas—Texas-Empire Pipe line Co., Bart-lesville, Okla., advises recent report proposed pipe line from Seminole district to East Texas is incorrect; line will not be built at this time.

at this time.

Tex., Carthage—National Gas & Oil Corp., capital \$5,000,000, organized under laws of Delaware, Maxwell Stevenson, Pres.; Eugene F. Connors, Gen. Mgr., both New York; reported, acquired at \$600,000 property of E. D. Holcomb and D. Thomason, Panola County gas field operators; plans drilling program; headquarters Carthage.

Tex., Goose Creek—R. E. Ferrell, Inc., capital \$25,000, incorporated; R. E. Ferrell. Tex., Hempstead—Walker County Oil Co., capital \$30,000, incorporated; S. E. McDa-

Tex., Houston—Pevehouse Oil Co., capital \$25,000, incorporated; E. W. Turner, Post-Dispatch Bldg.

Tex., Houston-Motorite Lubricants Corp., incorporated; George P. Wood, 923 Key St. Tex., Olney-Norgold Oil & Refining Co., incorporated; N. D. Goldsmith.

Tex., San Angelo—Unacre Oil Co. of Texas, capital \$33,000, incorporated; M. D. Bryant. Tex., Tyler—Redick & Hugus Oil Co., Inc., chartered; D. F. Hugus.

Texas—Yount-Lee Oil Co., Inc., San Jacinto Life Bldg., Beaumont, advises all material for High Island pipe line has been purchased and contract awarded to N. A. Saigh Co., Bldrs. Exch. Bldg., San Antonio:

purchased and contract awarded to N. A. Saigh Co., Bldrs. Exch. Bldg., San Antonio.

Va., Langley Field—Harman Engineering Co., 844 Rush St., Chicago, Ill., reported, low bidder at \$98,770 for 50,000 gal. construction fuel oil tanks, boiler plants, etc.

Va., Norfolk—Gerow Oil Co., incorporated; Asahel H. Gerow, 410 Raleigh Ave.

West Virginia—Columbia Gas & Electric Corp., 61 Broadway, New York, reported, acquired 28,000 acres oil and gas lands in Kentucky and West Virginia from R. R. Smith, Coal Exch. Bldg., Huntington, and L. E. Houston estate, Cincinnati, O.

W. Va., Beckley—Pure Oil Co., 35 E. Wacker Drive, Chicago, Ill., reported, acquired Bell Oil Products Service, Beckley, operating bulk plants at Princeton, Hinton and Beckley, and service stations in Beckley, Hinton, Princeton, Mullens and Bluefield; C. A. Hough, Columbus, O., will be vice-president and general manager of Bell company under new management.

Ice and Cold-Storage Plants

Fla., Sanford—Mountain Ice Co., F. E. Stein, Mgr., reported, construct \$10,000 ice storage house on Beardall Ave.; capacity 200 tons.

Ky., Dawson Springs—Schmidt Brothers, Sheridanville, O., reported, acquired Dawson Springs Ice & Fuel Co.

Land Development

Fla., Miami Beach—City Council, reported, voted to acquire block of ocean front property between Second & Third Sts. on Ocean Drive for park.

Fla., Palm Beach—Wm. L. Olmsted, Brook-line, Mass., drafted plans for landscaping of Palm Beach lake front south of Royal Park bridge.

Fla., Sarasota—Frank Kastory, Bradenton, reported, acquired 102-acre citrus grove 4 miles from Sarasota in Fruitville; install smudge system.

Mo., St. Louis—Hab Realty Co., incorporated; Albert D. Welsh, 502 Hollywood Pl., Webster Groves, St. Louis.
Mo., St. Louis—Chateau-LaMar, Inc., incorporated; Bert F. Fenn, 705 Olive St.

Mo., St. Louis—Southeast Missouri Farms, Inc., chartered; W. C. Connett, 4424 Lindell Blvd.

Mo., St. Louis—John O'F Delaney Estates. Inc., chartered; Andrew J. Lindsay, 362 Walton St.

N. C., Charlotte—Dixie Fishing & Recreation Club, 7 E. Third St., capital \$50,000, incorporated, J. W. Spratt; plans developing \$50,000 club project including 35-acre fishing pond and erection of club house in Dixie section of Mecklenburg county.

Tex., Amarillo—Fuqua Development Co., incorporated; W. H. Fuqua.

Tex., Brownsville—Barreda Townsite Co., capital \$60,000, incorporated; C. P. Barreda.

Tex., Dallas—Oak Cliff Development Co., Inc., capital \$80,000, incorporated; D. B. Blaine, 628 N. Zangs St.

Tex., Fort Worth—Reserve Realty Co., incorporated; L. W. Dumas, Fort Worth Natl. Bldg.

Tex., San Antonio—Col. Harry B. Farrar, 415 Burr St., and G. M. Ryan, reported, acquired 3281 acres in Bandera county; probably develop for scenic playground and hunting preserve.

Tex., San Antonio—G. C. Hagelstein, 202 Broadway, develop Donaldson Terraces, sub-division; install water, sewer, electricity; grade and prepare streets.

Va., Abingdon—Southwest Virginia Land & Lumber Corp., capital \$25,000, incorporated; W. J. Ballah, Clinchburg.

W. Va., Fayetteville-Home Land Co., in-corporated; C. W. Dillon.

Lumber Enterprises

Ala., Piedmont—W. H. & C. T. Wallace Lumber Co., reported, rebuilding burned

Ark., Gurdon—Tom G. Clark, Dallas Dalton and associates, reported, plan erection of saw mill, planer and dry kiln for working up timber on James G. Clark lands, west and south west of Gurdon, will be known as Bierne Lumber Co.; capacity 40,000 ft. lumber daily

N. C., Andrews—Andrews Log & Lumber Co., capital \$100,000, incorporated; Percy B. Ferebee, C. H. Tillitt.

Mining

Tex., Belton-A. R. Watson Mining Co., incorporated; A. R. Watson.

Miscellaneous Construction

Ala., Mobile—Alabama, Tennessee & Northern R. R. Corp., J. T. Cochrane, Pres., applied to U. S. Engr. Office, Mobile, for War Dept. permit to construct 2 floating car ferry terminals and dredge in Mobile River.

terminals and dredge in Mobile River.

Arkansas—R. Lee, First Lt., Corps of Engrs., Asst., U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn., advises construction of levee for U. S. supply and repair depot, opposite Memphis, being done by hired labor and Government plant; plans covering seawall being drawn, bids probably be asked within 30 days.

11-19

La Monroe Pobort S. Maestri Structure.

La., Monroe—Robert S. Maestri, State Conservation Commr., New Orleans, has plans complete for fish hatchery on Bayou DeSiard and Black Bayou; plans by Huey Engineering Co., Monroe.

Engineering Co., Monroe. 10-8

La., New Iberia—A. J. Negrotto, Engr., New Orleans, presented plans for port of New Iberia, \$10,000; port commission to include a representative from police jury of parish and one from City Council.

La., New Orleans—Bd. of Commrs., Port of New Orleans, 200 New Courthouse Bldg., has low bid from Jones & Laughlin Steel Corp., Industrial Canal, for 440 tons steels for Toulouse St. whalf.

Md., Annapolis—Bureau of Varde or descriptions.

Md., Annapolis—Bureau of Yards and Docks, Navy Dept., Washington, D. C., has low bid from Smythe Bros., Galesville, Md., for pile dolphins.

ow did from Smythe Bros., Galesville, Md., for pile dolphins. 11-26

Miss., Gulfport—City Commrs. and Gulfport Port Comsn. applied to Illinois Central for permission to lease space on Gulfport pier for erecting warehouse for storing cotton, etc.; 700x50 ft.; will accommodate cotton compress.

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, following contracts: 9365 lin. ft. standard pile clump dikes, Missouri River, Chamois Reach and Chamois Bend. Bilhorn, Bowers & Peters, Ry. Exch. Bldg., St. Louis, \$274,027; 6600 lin. ft. standard pile clump dikes, Miaml, DeWitt and Brunswick Bends, Kansas City, Brldge (o., 510 Orear Leslie Bldg., Kansas City, \$69,282. 11-19

South Carolina—Constructing Quartermas-

South Carolina—Constructing Quartermas-ter, Fort Bragg, N. C. opens bids Dec. 21 for constructing and completing addition to monument at Cowpens Battlefield, near Ezell. 9-3

Texas—Bulkhead—See Roads, Streets and Paving—Caldwell County.

Tex., Port Arthur—W. Horace Williams Co., Inc., 833 Howard Ave.. New Orleans, La., Gen. Contr. on seawall for City, has plans complete for \$10,000 pumping station: final unit of system.

Tex., Rusk—State Bd. of Control, Claude D. Teer, Chmn., Austin, let contract to Dallas Transportation Co., W. Commerce St., Dallas, at \$23.837. for reservoir dam at Rusk State Hospital; State Bd. of Water Engrs., Designing Engrs., Austin.

Va., Richmond—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., let contract to E. L. Bass & Bros., 708 Bainbridge St., for alterations to elevator building, Ninth St. Yard.

Miscellaneous Enterprises

Ala., Glencoe—East Quarry Co., C. A. East, Mgr., Route 1, advises plan building four 10 ft. x 16 ft. x 12 ft. high bins with screens and chute arrangements; have material for crusher building; purchasing screens from Niagara Concrete Mixer Co., Buffalo, N. Y.; order not placed for conveyor belt and bearings; motor purchased from General Electric Co., Protective Life Bldg., Birmingham, Agency; construction by company's forces; all engineering work by local people.

Ark., Pine Bluff—P. K. Miller, Miller Funeral Home, reported, construct \$10,000 office plant at Second & Spruce Sts.

office plant at Second & Spruce Sts.

D. C., Washington—Colonial Ice Cream Co., 622 Pennsylvania Ave., N. W., erect plant on 20,000 square ft. ground S. E. Cor. Canal & Ivy Sts.; steel and conc.; conc. and prick; 2 stories; cubical content of 450,000 ft.; equip with oil-burning boiler and unit heaters; glass lined tanks for storage raw material products; cost \$100,000; Baer & Scholz, Contrs., Edmonds Bidg. 12-3

Ga., Nahunta-Josephus Camp, Nahunta, reported, leased Brantley Enterprise, news-

Ky., Glasgow—Glasgow Coca-Cola Bottling o., capital \$15,000, incorporated; C. C.

Clark.

Ky., Lexington—Charles H. McAtee Shoe Rebuilding Co., chartered; Charles H. McAtee, 103 S. Lime St.

Ky., Lexington—Kentucky Ignition Co., 233 E. Main St., reported, occupy building S. W. Cor. Vine & Ross Sts.; 2 stories; brick: 72x140 ft.; Edwin C. Gilson, Bldr., 640 E. Main St.; Miller & Gratz, Inc., Archts., 131 N. Lime St.

Ky., Louisville—DeHart Paint & Varnish Co., capital \$20,000, incorporated; Claude E. DeHart, 312 Raymond St.

La., Shreveport—City Dye Works, Harry

La., Shreveport—City Dye Works, Harry Reed, Mgr., reported, plans construction plant 2478 Texas St.

Md., Baltimore—Lucy Strike Mfg. Co., 2226 E. Fairmount Ave., incorporated; Meyer Horwitz, 2221 E. Fairmount Ave.; coinamatic amusement machines.

Md., Baltimore—Commonwealth Engineering Co. of America, 301 Keyser Bldg., chartered; John J. Neubauer, C. Edward Jones; general contracting and building.

general contracting and building.

Miss., Biloxi—Helfensteller, Hirsch & Watson, Archts., Chemical Bldg., St. Louis, Mo., reported, have plans ready Dec. 18 for bids for general contract for dairy and ice cream plant for Ness Creameries; Clifton Cox, Local Mgr.; rein. conc., brick and steel; \$50,000.

Mo., Joplin—H. S. Mitchell and H. L. Dunkerley, Lawrence, Kans., reported, acquired Joplin plant of Dr. Pepper Bottling Co., 817 Broadway; expend \$10,000 for additional equipment and enlargement plant; construct second story addition; increase canacity

Mo., Kansas City—Lambert Chemical Co., incorporated; C. L. Lambert, 906 E. Ar-mour Blvd.

mour Blvd.

Mo., Kansas City—American Black Marble Corp., recently organized with B. W. Brown, Pres., reported leased storeroom 1804 Grand St. for offices and display rooms; plans establishing same location, shop to manufacture marble novelties; has black marble quarries in Stone and Searcy counties, Arkansas.

Mo., Kansas City—Homer Laboratories, Inc., capital \$25,000, incorporated; E. Homer Bird, 2714 Prospect Ave.

Mo., Kansas City—Powdrell-Hunt Co., subsidiary of Powdrell & Alexander, Inc., (Textile & Curtain Corp.), Danielson, Conn., reported, leased portion of building 920 Broadway for window curtain plant; initial production 1000 prs.; install power sewing machines; H. R. Christman, Denver, Colo., in charge.

Mo., Springfield—Anchor Mfg. Co., Clay Ave. and Pythian Sts., J. Warren Sanders, Pres., reported, rebuild burned plant; manu-factures incubators, window display fixtures, etc.

Mo., St. Louis—St. Louis Steel Products Co., incorporated; Gayle R. Hermann, Webs-ter Groves, St. Louis.

Mo., St. Louis—Modern Home Publishing Co., incorporated; Clarence W. Condie, 5616 Enright St.

Mo., St. Louis—Southern Enterprise, Inc., 916 Federal Comm. Tr. Bldg., chartered; H. K. Marvin; building.

N. C., Charlotte—Rozzelle Floral Co., 2240 Avandale Ave., reported, plans additional building, including icing rooms, offices and display rooms.

N. C., Charlotte—Charlotte Packing & R fining Co., Lancaster St., reported, plans a dition.

N. C., Greensboro—Oettinger Lumber Co., S. Elm St., ext., Greensboro, reported, has contract for mill work for Coca Cola Botting Co.; George W. Kane, Box 1122, Gen. Contr.; Frank Antrim, Greensboro, contract for excavating and grading; cost of plant \$65,000, of equipment \$20,000.

N. C., High Point—High Point Overall Co., 120 Hamilton St., reported, remodel 1 story, brick, pants plant; install additional machinery; double capacity.

N. C., Morganton—Whip-Poor-Will Dairy, Inc., chartered; John M. Mull. N. C., New Bern—Cohen-Goldman Garment Co., reported, install additional machines; increase weekly output to 1500 garments.

Tenn., Knoxville—Goodall Co., Wm. N. Campbell, Pres., 112 S. Gay St., reported, selecting site for erection palm beach suits plant.

Tex., Dallas—Bird Haven Farm, Inc., chartered; Wood R. Alexander, 5100 Live Oak St.

Tex., El Paso—Texas Warehouse Co., Inc., chartered; Frank L. Clark.

Tex., Fort Worth—Ice-A-Teris Co. of America, chartered; Rudy Copeland, 701 N. Main St.

Tex., Houston—J. E. Josey, Natl. Standard Bldg., reported, acquired control of Houston Post-Dispatch, contingent upon approval of present publisher, Gov. Ross S. Sterling.

Tex., Laredo—Domingo Gonzales Building Co., capital \$25,000, incorporated; Domingo Gonzales.

Tex., Paducah—Paducah Coca Cola Bottling & Ice Co., capital \$60,000, incorporated; Robt. T. Wilson.

Tex., San Antonio—Fidelity Drug & Chemil Co., incorporated; A. F. Munster, 1406. Magnolia St.

Tex., Thorndale—Clark Construction Co., incorporated; Ed Clark.

Va., Alexandria — Anti-Fire Extinguisher Corp., J. C. Feldman, Pres.-Treas., located plant in Emerson Engineering Corp's Bldg.; manufactures anti-automatic fire extinguishers and alarms

W. Va., Charleston—Mount Vernon Farm Dairy Products Co., capital \$50,000, incorpo-rated; H. E. Shadle, Beech Hill.

Motor Bus Lines and Terminals

Motor Bus Lines and Terminals

Ga., Atlanta—Colonial Short Line Co., reported, formed by Carl S. Warner, Pres. of city Transfer Co., Cincinnati, who is president of new company; Nieuport B. Estes, V. P. and Gen. Mgr. Colonial Stages South, Inc., is vice-president; combination and holding corporation for bus lines operating through Middle West. East, North and South, with investments in excess of \$3,000,000; Colonial Short Line Co., Cincinnati, O., acquired Interstate Transit Co., operating in Middle West under receivership; will take over management and operation of Colonial Stages, Inc., East, North and South; also announced affiliation with Buckeye Stages, operating in Ohio, Indiana and West Virginia; Coastal Transit Co. and Great Eastern Stages, operating throughout Lave England States, and East Coast Stages, operating throughout Carolinas and Virginia; additional service out of and into Atlanta not contemplated at this time.

of and into Atlanta not contemplated at this time.

Georgia—Georgia Public Service Comsn., Atlanta, reported, approved application of following for operation passenger or freight lines over Georgia roads: Macon-Brunswick Short Route, operate Macon and Brunswick, via Cochran, Eastmand, McRae, Baxley and Jesup; James H. Skelton, Jr., Hartwell, operate bus line between Athens and Georgia-South Carolina line, terminus Anderson, via Danielsville, Royston and Hartwell; E. H. Pace Bus Line, Jackson, operate passenger and express line between Eatonton and Griffin, via Monticello and Jackson; South Georgia Coach Line, Waycross, operate passenger and freight line between Macon and Baxley, via Perry, Hawkinsville, McRae and Eastman: others receiving certificates are: John C. Wilson, Miller; D. W. Saser, Arlington; P. T. Codrey, Cordele; T. C. Cooper, Jr., Dallas; Mosteller Brothers Transfer Co., Cartersville.

Md., Baltimore—Union Taxi Service, Inc., 29 N. Fremont Ave., chartered; Harry Adle-man, Robert R. Adleman.

S. C., Charleston—Blalock Motor Express, capital \$15,000, incorporated; Augustus J. Blalock.

Tenn., Nashville-C. E. & N. Motor Ex-

chartered; Richard Gleaves. press, Inc., Nichol Bldg.

Tex., Corpus Christi—Corpus Christi-San Antonio-Austin Motor Freight Line, incorpo-rated; C. L. Downey.

rated; C. L. Downey.

Tex., Dallas—Motor Freight, Inc., chartered; P. P. Prescott, 1209 Ross St.

Tex., Houston—Herrin Transportation Co., incorporated; O. B. Herrin, 3923 McKinney

Tex., Houston—Herrin Transportation Co, incorporated; O. B. Herrin, 3923 McKinney St.

Tex., Luffin—Lufkin-Beaumont Bus Lines, capital \$\$30,000, incorporated; H. E. English. Va., Norfolk—State Corp. Comsn., reported, granted permission to Richmond Greyhound Lines, 412 E. Broad St., Richmond, to operate passenger buses from Virginia-District of Columbia line to Norfolk, Petersburg, Alexandria and Suffolk.

West Virginia—Following applied to F. O. Sanders, Supervisor for Transportation, of State Road Comsn., Charleston, for permission to operate motor truck lines: J. D. Shelton, Clay, for line Charleston, Sutton, Clay and Bickmore; D. M. Stilfes, Dundon, between Charleston and Flatwoods; J. H. Smathers, Oak Hill, lines between Charleston and Oak Hill, Charleston and Beckley; F. A. Thomas, Parkersburg, between Parkersburg and Wheeling, Parkersburg and Charleston, and Parkersburg and Charleston; J. T. Wills, Rupert, lines Charleston and Rainelle; J. D. Kinsey, Greencastle, Pa., Hagerstown, Md., and Greencastle, Pa., Hagerstown, Md., and Greencastle, Pa.; B. C. Liman, Wheeling, between Wheeling and Middlebourne, via Sistersville; George L. Miller, Wharton, between Charleston and Bald Knob; J. E. Miller, Wheeling, between Chester and Parkersburg; C. D. Moore, Bridgeport, O., between Weirton and Benwood; J. W. Nickell, Lookout, between Charleston and Rainelle; Pocahontas Transportation Co., Bluefield, between Bluefield and Charleston; Arthur Wilson, Grantsville, between Grantsville and Parkersburg; Earl Biggs, West Liberty, between West Liberty and Wheeling; M. D. Brickles, Charleston, from Charleston, Twin Churches, Weston and Clarksburg; Lonnie Francis, Moundsville, between Cameron and Wheeling; Robt. Heizler, Wheeling, between Moundsville and Hollidays Cove.

W. Va., Huntington—J. K. Browning, 114 Sixth Ave., applied to F. O. Sanders, Supervisor of Transportation, Charleston, for pervisor of Transportation, Conference of Transportation, Conference of Transportation, Conference of Transportation, Conference of Trans

W. Va., Huntington—J. K. Browning, 114 Sixth Ave., applied to F. O. Sanders, Super-visor of Transportation, Charleston, for per-mission to operate bus line Huntington and

W. Va., Mullens—J. E. Craft, Mullens, applied to F. O. Sanders, Supervisor of T. 21s-portation, Charleston, for permission to operate bus line Mullens and Welch and Mullens and Bluefield.

Railways

Louislana—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine Streets, New Orleans, La., opens bids Dec. 15 for installing bridge track, raising approach tracks, extending siding and removing 1000 ft. detour track on Texas & New Orleans R. R. Co.'s Bayou Sale branch near North Bend.

Railway Shops and Terminals

Md., Baltimore—Pennsylvania R. R., W. B. Wood, Engr. in Charge of Baltimore Improvements, Pennsylvania Sta., Baltimore, opens bids Dec. 15 for \$15,000 signal cabin, Gwynns Run; 2 story, brick, 20x30 ft.

Roads, Streets and Paving

In connection with LAND DEVELOP-MENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Moniteau—3.123 mi., 2.368 mi., 4.526 mi. gravel, SJ-2, SJ-3, SJ-4, F. T. O'Dell, \$11,286, \$6798, \$13,260;

gravel, SJ-2, SJ-3, SJ-4, F. T. O'Dell, \$11,286, \$6798, \$13,260;

GEORGIA—State Highway Bd., J. W. Barnett, Chmm., Atlanta, opens bids Dec. 15 for 26 roads and 11 bridges, involving \$2,700,000, in following counties:

Bacon—bridge, Douglas-Alma road, over Little Hurricane Creek. FAP 5 Reop., 51,300 lb. rein. steel, 109,800 lb. strue. steel, 12,600 lb. rein. steel, 109,800 lb. strue. steel wire cable (incl. fasteners), 195 tons rip rap;

Wilkes-McDuffie—1.079 ml. grading, Thompson-Washington road, being approaches to bridge over Little River. FAP 296-C & SAP 295, Reop., Part 1, 60,235 cu. yd. excavation, 59,765 cu. yd. hydraulic settlement of fills, 2140 cu. yd. selected material, 2337 lb. rein. steel, 10,239 sq. yd. grassing slopes, 1273 sq. yd. rip rap;

Baldwin—6.385 mi. grading, Milledgeville-Sparta road, 4 mi. east Milledgeville to near Baldwin-Hancock County line, FAP 241B, 75, 540 cu. yd. excavation, 3819 lb. rein. steel, 18,000 sq. yd. grassing slopes, 14,721 cu. yd. selected material surfacing;

Henry — 2 bridges, McDonogh-Atlanta road, between McDonogh and Henry-Clayton County line, SAP 685, 65,900 lb. rein. steel, 157,900 lb. struc. steel, 19,500 f. b. m. treated timber, 3244 lln. ft. treated piles;

Pulaski—853 mi. paving, Perry-Hawkinsville road, Hawkinsville, SAP 941-B, 5513 cu. yd. excavation, 9016 sq. yd. grassing shoulders, 10,647 sq. yd. conc. paving, using Portland cement or high early strength cement;

Ware—3.476 mi. paving, Wayeroes-Poarsey

cu. yd. excavation, 9016 sq. yd. grassing shoulders, 10,647 sq. yd. conc. paving, using Portland cement or high early strength cement;

Ware—3.476 mi. paving, Waycross-Pearson road, Waresboro to Fulwood Creek, FAP 410-H, 18,975 cu. yd. excavation, 42,100 sq. yd. grassing shoulders and slopes, 43,264 sq. yd. limerock base, 12,979 gal. tar prime coat, 21,633 gal. asphalt, 1083 tons slag aggregate, 500 tons extra limerock;

Jeff Davis—4,977 mi. paving, Hazlehurst-Baxley road, FAP 476-A, Reop., Alt. 1, 62,-221 sq. yd. limerock base, 18,667 gal. tar prime coat, 31,111 gal. asphalt, 1536 tons slag aggregate, 500 tons extra limerock, 2458 cu. yd. excavation, 58,407 sq. yd. grassing slopes and shoulders; Alt. 2, 59,300 sq. yd. sand asphalt base and surfacing, 1465 cu. yd. excavation, 58,407 sq. yd. grassing slopes and shoulders;

Cherokee—3.848 mi. grading, bridge, Marietta-Canton road, FAP 24 Reop., Part 2, 116,926 cu. yd. excavation; Cont. 1, 112,000 cu. yd. hydraulic settlement of fills, 16,740 lb. rein. steel, 19,813 sq. yd. grassing slopes, 2000 cu. yd. selected material sub-grade treatment; Cont. 2, 119,500 lb. rein. steel, 383,500 lb. struc. steel, 24,000 fb. m. treated timber, 1710 lin. ft. galv. steel wire cable (incl. fasteners), 4600 lln. ft. treated piling;

Taylor—3.273 mi. grading, 2 bridges, Ellaville-Butler road, Schley-Taylor County line 3.3 mi. north; Cont. 1, 52,473 cu. yd. excavation, 32,930 sq. yd. grassing slopes, 15,646 lb. rein. steel; Cont. 2, 38,100 lb. rein. steel; Colquitt—11.593 mi. pebble soil road and 5 bridges. Moultrie-Camilla road, west and FAP 51 to Colquitt—Michell County line, 37 mi. grading, 2 bridges, Ellaville-Butler road, Schley-Taylor County line, 3.5 mi. north; Cont. 1, 52,473 cu. yd. excavation, 32,930 sq. yd. grassing slopes, 15,646 lb. rein. steel; 70 mi. pebble soil road and 5 bridges. Moultrie-Camilla road, west and FAP 51 to Colquitt—Michell County line, 50 mi. pebble soil on steel; 70 mi. steel, 136,200 lb. struc. steel, 25,600 fb. bm. treated timber, 30 mi. propose sp.

yd. selected material surfacing, 34,172 incin. steel, 30,000 sq. yd. grassing slopes; Cont. 2, 40 100 lb. rein. steel, 189,400 lb. struc. steel;

Stewart—7.095 mi. paving. widening bridge, Lumpkin-Cusseta road, Lumpkin to Hannahatchee Creek, FAP 408-C, 28,737 cu. yd. excavation. 75,069 sq. yd. conc. paving. 38,784 lin. ft. raised edge curb, 10,316 lin. ft. wire mesh roadguard, 75,864 sq. yd. grassing slopes, 151,875 cu. yd. hydraulic settlement of fills; widening bridge, 4700 f. b. m. treated timber, 3700 lb. rein. steel:

Colquitt—4.862 mi. paving. Moultrie-Thamasville road. Moultrie to north end FAP 487-A, FAP 487-B, 5432 cu. yd. excavation, 4825 cu. yd. hydraulic settlement of fills, 57,057 sq. yd. grassing shoulders and slopes; 57,166 sq. yd. conc. paving, 3950 lin. ft. raised edge curb;

Seminole—897 ml. paving. Bainbridge-Dothan. Ala.. road. Donaldsonville, FAP 480-B & SAP 442-A, 7437 cn. yd. excavation, 1200 cu. yd. hydraulic settlement of fills, 1036 lb. rein. steel culvert extension, 8472 sq. yd. grassing slopes and shoulders, 14 257 lin. ft. treated form boards, Alt. 1, 17,741 sq. yd. sand asph. base and surfacing. Alt. 2, 17,741 sq. yd. limerock base, 5323 gal. tar prime coat, 8870 gal. asphalt. 449 tons slag aggregate, 100 tons extra limerock:

Evans—10,311 ml. grading, Reidsville-Pembroke road, Evans-Tatnall County line to near Evans-Bryan County line, FAP 52-Reop., 167,984 cu. yd. excavation, 89,947 cu. yd. hydraulic settlement of fills, 30,883 lb. rein. steel, 38,777 sq. yd. excavation, 89,947 cu. yd. hydraulic settlement of fills 30,883 lb. rein. steel, 38,777 sq. yd. excavation, 89,947 cu. yd. hydraulic settlement of fills 30,883 lb. rein. steel, 38,777 sq. yd. excavation, 89,947 cu. yd. hydraulic settlement of fills 30,883 lb. rein. steel, 38,777 sq. yd. excavation, 89,947 cu. yd. hydraulic settlement of fills 30,883 lb. rein. steel, 38,777 sq. yd. grassing slopes, 27,221 cu. yd. selected material surfacing;

Screven—6.344 ml. paving. bridge. Sylvania-Waynesboro road. Sylvania to Jacksonboro b

hydraulic settlement of fills; bridge and 2 bridge culverts, 21,803 lb. rein. steel; Coweta—1.4 mi. paved street, Newnan, 663.2 thousand 3-in. wire cut lug paving brick, 114 tons asph. filler, 1150 tons sand for cush-

thousand 3-in. whre the large partials thousand 3-in. where the large partials are consistent with the large partials and the large partials are consistent with the large partial partials are consistent with the large partial partials are consistent with the large partials are consistent with the large partial partials are consistent with the large partial partials are consistent with the large partial partials are consistent with the large pa

binder course; 1200 tons com mix asportante face course;

Meriwether — bridge, Greenville-Zebulon road, SAP 597, 25.300 lb. rein. steel, 52,300 lb. strue. steel, 5600 f. b. m. treated timber, 1456 lin. ft. piles treated.

Ga., Atlanta—Fulton County Comsn. authorized grading Piedmont Ave.; approved grading Mount Zion road and Grand Ave. in Stewart Ave., Brown Mill road section.

La., Franklin-City, L. B. Renard, Clopens bids Dec. 15 for improving streets,

La., New Orleans—City Engineering Dept. opens bids Dec. 15 for 24 streets in third 1931 paving program. 12-3

La., Opelousas—Mayor and Bd. of Aldermen gave notice of decision to improve Grolee
St. by graveling to 14 ft.

Mississinni—Step Highway Comen. C. M.

Mississippi—State Highway Comsn., C. M. Williamson, Dir., Jackson, survey U. S. 45, Columbus to Aberdeen and State Highway 12, Columbus to Starkville, with view to making relocations, eliminating curves and shortening distance.

making relocations, eliminating curves and shortening distance.

Mississippl—State Highway Comsn., C. M. Williamson, Dir., opens bids Dec. 17 for 6.363 ml., Meridian Hattiesburg road, Lauderdale County, FAP 135-Reop., 162,249 cu.yd. excavation, 12,244 lb. rein. steel; bridge, 85,471 lb. rein. steel, 1420 lin. ft. conc. steel railing, 1073.3 sq. yd. conc. paving, 63,160 lb. struc. steel, 540 lin. ft. crossted piling, 13,000 ft. b. m. crossoted lumber.

Missouri—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, has low bids for 99 roads and bridge in following counties:

Atchison—4.218 ml., 3.898 ml. graded earth, 18-1A, 18-2, Martin Wunderlicht, Jefferson City, \$27,232, \$35,659;

Audrain—3.968 ml., 2.466 ml. gravel, SC-1, SC-2, Samples & Elsea, Kirksville, \$9257, \$4461;

Barton—2.822 ml., 2.728 ml. chats. SZ-1

Addrain—3.908 M., 2.400 ml. gravel, SC-1, \$4461;

Barton—2.822 mi., 2.728 ml. chats. SZ-1, SZ-2, C. K. Kost, Joplin. \$6514, \$18,022;

Benton—1.197 ml. 20-ft. conc., 65-67B, Carlon Construction Co., Maplewood, \$15,231;

Butler—3.527 ml., 5.000 ml. gravel, SB-1A, SC-1, Lahar Construction Co., Boonville, \$4969, \$22.044;

Cape Girardeau—0.594 ml. 20-ft. conc., 25-27, S. J. Cohen & Co., Blytheville, Ark., \$87,-525; 3.566, 4.223 ml. gravel, SB-1, SB-2, Martin Wunderlich, \$7504, \$10.314;

Chariton—4.209 ml., 4.238 ml. gravel, 5-22, 4.002, 3.462, 4.267 ml. gravel, 6-337C, 5-337D, 5-337E, Otto W. Knutson, 4008 Penn St., Kansas City, \$19,553, \$60,741, \$22,567;

Christian—4.908 ml. crushed stone SA-4, H. W. Harris, 2311 E. 73rd St., Kansas City, \$17,083; 1.583 ml., 2.699 ml. gravel, 65-107B, 65-108B, same firm, \$540, 81,689;

Clark—1.723 ml., 3 863 ml. gravel, \$7-4, SZ-1, Samples & Elsea, Kirksville, \$4851, \$14,094;

Clay—1.175 ml. crushed stone, SV-1, Hendeson Construction Co., Richmond, Mo., \$17,683;

Crawford—0.685 ml., 4.190 ml., 1.318 ml. gravel, 19-8, SC-1, SC-2, Martin Wunderlich, 1974 ch. 200.

derson Construction Co., Richmond, Mo., \$17,683;
Crawford—0.685 mi., 4.190 mi., 1.318 mi. gravel, 19-8. SC-1. SC-2, Martin Wunderlich, \$4278. \$10,109. \$8249;
Dallas—2.735 mi., 1.318 mi. crushed stone and gravel, 72-75, SE-1, Martin Wunderlich, \$18,727, \$11,252;
Dent—95.75-ft. bridge, SD-2, Maxwell Construction Co., Columbus, Kans., \$3330;
Dunklin—4.079 mi., 2.931 mi. gravel, SV-2, SV-3, Lahar Construction Co., \$10.441. \$9396;
Grundy—3.510 mi., 2.931 mi., 3.510 mi., 4.617 mi., 3.350 mi., 1.375 mi. gravel, 6-116B, 6-330B, 6-330C, Ebbe Construction Co., Trenton, \$15,-129. \$49.397, \$19.806, \$33.739;
Harrison—3.542 mi., 3.524 mi., 0.892 mi. graded earth, SB-1. SB-2, SN-2, Otto W. Knutson, \$16.196, \$14.439, \$9787;
Howell—2.010 mi. gravel, SC-1. Carte-Harlin Construction Co., West Plains, \$10.008; 4.462 mi., 4.888 mi. graded earth, SC-2, SC-3, same firm, \$11,477, \$10,371;

Jackson—1.748 mi. 40-ft. conc., 3.440 mi., 4.754 mi., 4.705 mi., 1.392 mi. 20-ft. conc., 0.848 mi. 40-ft. conc., 1.114 mi. 20-ft. conc., 24-61A, 24-61B, 24-61C, 24-61D, 24-61E, 24-61E, 24-61C, C. F. Lytle, Sioux City Iowa, \$35, 376, \$49,675, \$70,366, \$153,259, \$31,834, \$40,216, \$61,941. 376, \$49,675, \$70,386, \$153,259, \$31,834, \$40,216, \$61,941;

Knox—1.533 mi., 1.088 mi. gravel, SZ-1, SB-3, Jewett & Hardy, Shelbina, \$3583, \$3457;

\$61,941;

Knox—1.533 mi., 1.088 mi. gravel, SZ-1, SB-3. Jewett & Hardy, Shelbina, \$3585, \$3457;

Lewis—1.993 mi., 2.407 mi. gravel, SB-4, SD-3, Jewett & Hardy, \$4953, \$7729;

Lawrence—0.455 mi. crushed stone, Se-2A, Graham Bros., 3005 Van Brunt St., Kansas City, \$19,491;

Livingston—2.330 mi., 3.419 mi., 2.367 mi, gravel, SA-2, SA-3, SN-1, Hoover Bros. Construction Co., Mainstreet Bank Bldg., Kansas City, \$8435, \$8381, \$7223;

Miller—3.291 mi., 2.644 mi. gravel, 17-6A, 17-7A, Gaines Bros. Co., Eldon, \$29,087, \$18,-589; 3.976 mi., 1.426 mi. gravel, SJ-5, SJ-6, F. T. O'Dell, Hannibal, \$12,974, \$5923;

D. C., Washington—Dist. Commrs., 509 Dist. Bldg., open bids Dec. 14 for grading streets and alleys, 60,000 cu. yd.

Morgan—3.786 mi., 3.649 mi. gravel, SA-4, SA-5, Martin Wunderlich, \$10,221, \$8558;

New Madrid—4.999 mi., 4.556 mi. graded earth, Ref. 1-1A (SK-1), Ref. 1-1B, Lahar Construction Co., \$23,019, \$23,027;

Oregon—2.043 mi., 3.699 mi., 4.381 mi., 1.826 mi. graded earth, SA-2, SD-5, SE-3, SE-4, Amy & Mitchel, Bakersfield, \$10,328, \$6423, \$14,825, \$4352;

Osage—4.942 mi., 4.942 mi. gravel, SM-1, F. T. O'Dell, \$10,145;

Perry—4.938 mi. gravel, SA-3, Klefner & Gelle, Perryville, \$8527;

Phelps—4.307 mi., 4.498 mi., 4.214 mi. gravel, 134, \$17,340, \$34,481;

Dent—4.038 mi., 4.536 mi., 4.214 mi. gravel, \$2A-4, 72AP-5, 72AP-6, Martin Wunderlich, \$44, \$17,340, \$34,481;

Dent—4.038 mi., 4.536 mi., 4.316 mi. gravel, \$22A-4, 72AP-5, 72AP-6, Martin Wunderlich, \$34,965, \$59,839, \$27,484;

Pike—4.918 mi. gravel, SA-5, Martin Wunderlich, \$13,559;

Randolph—3.396 mi., 4.375 mi., 3.400 mi. graded earth. SE-1, SE-2, SE-3, Otto W. Knutson, \$11,994, \$15,077, \$4494;

Ralls—2.928 mi. gravel, SB-2, Martin Wunderlich, \$6425;

Ripley—4.811 mi. gravel, 21-52, F. T. O'Dell, \$38,413;

Scotland—4.476 mi., 4.294 mi. gravel 4310-A, 4-310B, Samples & Elsea, \$15,552, \$20,711;

\$38.413; Scotland—4.476 mi., 4.294 mi. gravel 4310-A, 4-310B. Samples & Elsea, \$15,552, \$20,711; Shelby—3.461 mi., 3.466 mi. gravel, 15-17, 15-18. Simmons & Ferman, LaPlata, \$15,719, \$17,092;

317.092;
St. Clair—2.273 mi., 4.488 mi. gravel, SA-4, SA-5, Martin Wunderlich, \$5504, \$13,922;
St. Clair—2.273 mi., 4.488 mi. gravel, SA-4, SA-5, Martin Wunderlich, \$5504, \$13,922;
Ste. Genevieve—3.122 mi., 3.137 mi. gravel, 32-42, 32-43, F. T. O'Dell, \$12,581, \$16,745;
St. Louis—2.559 mi., 0.514 mi. 20-ft. conc., 66TR-5, 66TR-7, F. T. O'Dell, \$91, 35, \$32,005;
St. Francis—3.004 mi. gravel, 32-32, F. T. O'Dell, \$31,060;
Wright—0.521 mi. gravel, 5-84B, Maxwell Construction Cn., \$31,317;
Webster—4.115 ml., 3.924 mi. gravel, SA-1, SA-2A, J. R. Brownfield, Ozark, Mo., \$10,-915, \$2374.

Mo., St. Joseph—City, H. D. Judson, City Engr., considering number of small paving projects for 1932.

projects for 1932.

N. C., Charlote—City, J. B. Pridgen, City Mgr.. opens bids Dec. 14 for street improvements and street opening, 40,000 sq. yd. asphalt, conc. or other pavement with necessary excavation, sidewalks, curbs and gutters, etc.; street opening to consist of approx. 12,000 cu. yd. grading, 800 cu. yd. broken stone base course, \$210,000; use local labor.

broken stone base course, \$210,000; use local labor.

OKLAHOMA—State Highway Comsn., Sam R. Hawks. Chmn., Oklahoma City. opens bids Dec. 15 for 3 roads and 11 bridges in following counties:

Payne—3 30-beam I-beam span, 22-ft. roadway bridge. State Highway 1. 7 mi. north Stillwater, 500 cu. yd. excavation, 27,200 lb. rein. steel, 38,400 lb. struc. steel, FAP 231-G; Craig—50-ft. and 2 55-ft. spans, 22-ft. roadway overhead crossing over M. K. T. Railroad, north Welch, U. S. 64, 45,228 cu. yd. excavation, 46 480 lb. rein. steel, 114,000 lb. struc. steel. FAP 243-G; Coal—2 bridges, U. S. 75, north Coalgate, 1 being 80-ft. steel truss and 2 36-ft. I-beam span, 22-ft. roadway, over Rock Creek. other 80-ft. steel truss, 22-ft. roadway, 55.740 lb. rein. steel, 187,000 lb. struc. steel, 1056 lin. ft. untreated timber piling, SAP 328-C; LeFlore—10.654 mi. grading. draining, bridges, U. S. 270. Heavener south; Sec. "A" 4.272 mi. grading, draining, Sec. "D" 70-truss. 210-ft. truss, 70-ft. truss bridge and one 3 36-ft. I-beam span bridges, Sec. "G" wo 50-ft. I-beam span bridge and 2 multiple box culverts; Sec. "A", 135.135 cu. yd. excavation, 76.621 lb. rein. steel; Sec. "D," 1250 cu. yd. excavation, 107,206 lb. rein. steel; Sec. "G," 81,080

lb. rein. steel, 176,250 lb. struc. steel, SAP 327 A-C-D-G; Johnston—7.754 mi. grading, draining, bridges, State Highway 47, 7 mi. north Tishomingo north 7.754 mi. Sec. "D," 7.726 mi. grading, draining, Sec. "E," 3 bridges, 50-ft. I-beam span, 22-ft. roadway, and 36-ft. I-beam span, 22-ft. roadway; Sec. "D," 132,271 cu. yd. excavation, 57,302 lb. rein. steel; Sec. "E," 1000 cu. yd. excavation, 44,830 lb. rein. steel, 404,450 lb. struc. steel, SAP 794 D & E.

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has apparent low bids for 5 maintenance gravel projects, involving \$50,000, in following counties:

ties:
Lincoln—U. S. 66, Western Paving Co.,
Petroleum Bldg., Oklahoma City, \$7623;
Grady—U. S. 81, Asplund Construction
Co., Enid, \$8731;
Grant—U. S. 81, Dickinson & Wray, Hitch-

Co., E... Grant—U. \$8482

cock, \$8482;
Kiowa-Tillman—State Highway 14, Dickinson & Wray, \$10.876;
Kiowa-Caddo—State Highway 9, C. S. Clark, Petroleum Bldg., Oklahoma City,

Tex., Denton—City Commrs., B. W. Mc-Kenzie, Mayor, has bid for paving Bell Ave. from Jagoe Construction Co. 11-26

Tex., El Paso—El Paso County, J. W. Carter, County Engr., authorized by Commrs. Court to proceed with road work in McKelligon Canyon; \$295,000 bonds voted.

Tex., Houston—S. A. Starkey, Street and Bridge Commr., recommended that City Council authorize hard surface paving of Scott St., 2.2 mi., 6-in. shell base and 1-course bitum. surface paving, \$10,000.

Tex., Houston—J. M. Nagle, City Engr., submitted plans to City Council for grading, graveling and 2 wooden bridges in 2000-ft. extension of 75th St., 20 ft. wide.

Tex., Jasper—City, A. L. Black, Mayor, opens bids Dec. 30 for 2 paving projects, approx. 27,065 sq. yd. conc., excavation, grading, etc.; C. P. Hunter City Engr.

Tex., San Antonio—City, I. Ewig, City Engr., opens bids Dec. 14 for conc. side-walks, Elm St.

Virginia—State Dept. of Highways, H. G. Shirley, State Highway Commr., Richmond, reported. plans widening Richmond-Washington Highway to at least 3 tracks; may ultimately widen to 4 tracks.

Mo., Kansas City—Jackson County Highway Engineering Dept., Leo E. Koehler, Highway Engr., 508 Interstate Bldg., let contracts for 2 roads and bridge: 7.950 mi. grading, draining, paving, Nolan St. road, Proj. 46, Sec. 1. Davis Construction Co., Boonville, \$20.586; 110-ft. bridge, Noland St. road, Proj. 46, Sec. 2. Whitmire Construction Co., Midland Bldg., Kansas City, \$14.003; 3.759 mi. grading, draining, paving, Blue Ridge cut-off road, Proj. 50, Davis Construction Co., \$11.434.

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, let contracts for 4 gravel roads in following counties:

Lincoln—7.1 mi. Highway 66, J. H. Hurst, Skirvin Hotel, Oklahoma City, pit gravel, \$6715;

Grant—9.2 mi. Highway 64, Nash, Way-

\$6715;

Grant—9.2 mi., Highway 64, Nash, Waynoke Sand & Gravel Co., Enid, \$6952;

Kiowa-Tillman—18.2 mi., Highway 14,
Dickinson & Wray, Hitchcock, \$10,876;

Kiowa-Caddo—6.9 mi., Highway 9, C. S.
Clark Construction Co., Oklahoma City, \$7245.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, let contracts for 13 roads and 9 bridge projects, involving approx. \$1,045.354, in following counties:

Houston—8.5 mi. conc., Highway 21, R. W. Briggs, Pharr, \$138,590;

Liberty—7.8 mi. conc., Highway 35, Froemming Bros., Needville, \$132.698;
Navarro—3.9 mi. conc., Highway 14, F. P. McElrath Construction Co., Corsicana, \$65,-287;

287;
Guadalupe — 13.3 mi. grading, draining,
Highway 3-A, Trinity Farm Gravel Co., 5636
Lemmon St., Dallas, \$67,044;
Lubbock-Hockley—17.1 mi. triple asphalt,
Highway 7, Cocke & Braden, Marshall, \$108,-

Lubbock-Hockley-H.1 m. triple asplant, Highway 7, Cocke & Braden, Marshall, \$108,-130;

Crockett-Pecos—6.9 mi. grading, draining, Highway 27. L. J. Miles, 1899 Clover Lane, Forth Worth, \$31,427;

Concho—Bridge over Concho River, Highway 4, Jensen Construction Co., Kimballtown, Ia., \$68,381; roadway approaches, Bucyd Childs, Rising Star, \$11,592;

Guadalupe—Saint Clair Creek bridge and arge drainage structures, Highway 3-A, Dozier Construction Co., Austin, \$16,982;

Pecos—Sheffield Creek bridge, Highway 27, Dozier Construction Co., \$25,413;

Tyler—bridges over Hickory and Cypress Creeks, Highway 40, J. S. Moore & Sons, Lufkin, \$34.778;

Jack—10.9 mi. traffic bound macad., Highway 34, Dexter Construction Co., Lovefield Drive, Dallas, \$92,849;

Bowle—6.3 mi. grading, draining, Highway 5, Hannah Construction Co., Fred and Dan Hall, 2717 Ethel St., Waco, \$14,759;

Wilson—9.9 mi. grading, draining, Highway 123, J. M. Shilling, Itasea, \$42,340;

Harrison—9.5 mi. grading, draining, Highway 155, Trinity Farm Gravel Co., \$33,660;

Refugio—37 mi. jetting embankments Highway 128, H. K. McCellum, Fort Worth, \$8663;

Brazoria—bridge over Jones Creek and relief bridges, Highway 36, John F. Buckner,

\$8663;
Brazoria—bridge over Jones Creek and relief bridges, Highway 36, John F. Buckner, Cleburne, \$23,029;
Chambers—bridge over Spindle Top gulley, Little and Big Elm Creek and culvert, Highway 124, J. E. Thompson, San Augustics \$26274.

ley, Little and Big Elm Creek and culvert, Highway 124, J. E. Thompson, San Augus-tine, \$6174; Dallas — underpass under Texas Electric Ry.. Highway 6, Trinity Farm Gravel Co., \$40 220;

220;

Hamilton — bridge over Cowhouse Creek,
Highway 66, J. S. Moore & Sons, Lufkin,

Highway 55, Dexter Construction Co., \$70.040.

11-26

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, let contracts, totaling \$736.024, for 10 roads and 16 bridges in following counties:

Wise—6.4 mi. crushed conglomerate base course, Highway 34, J. Lee and E. A. Vilbig, Inc., 2517 Eakin St., Dallas, \$38.322;

Houston—7.10 mi. conc., Highway 19, L. H. Lacy Co., Burt Bidg., Dallas, \$106,318;

Brown—13.6 mi. caliche, waterbound broken stone macad. base course with triple asphalt surface treatment, Highway 7, H. K. McCollum, Fort Worth Natl. Bidg., Fort Worth, \$115.612;

Robertson—16.6 mi. grading, draining, Highway 43, Hannah Construction Co. and Fred and Dan Hall, Waco, \$63.983;

Bexar—14.9 mi. grading, draining, Highway 3-A. McClure & Denison, Tucumcari. 3-A. over Martinez, Salitrillo. Rosillo and N. M., \$54.420; 4 conc. bridges, Highway Woman Hole Creeks and 3 mult. box conc. culverts, Dozler Construction Co., Austin, \$46.125;

Wheler—steel, conc. overpass, Highway 4, over Clinton, Oklahoma & Western R. R., Allbands & Davis, S. W. Life Bldg., Dallas, \$6474;

Menard—steel, conc. bridge, Highway 4,

Allbands & Davis, S. W. Life Bldg.. Dallas, 8474;
Menard—steel, conc. bridge. Highway 4, over San Saba River. Menard, Cage Construction Co.. Taft, \$72,569;
Cherokee—4.4 ml. grading, draining, Highway 22. J. S. Moore & Sons, Lufkin. \$14,237;
Fayette—6.2 ml. grading, draining, Highway 44, E. G. Powell, Jacksonville, \$24,936;
4 conc. bridges, Highway 44, over Bear, Rabbs, McDows Branch and Pin Oak Creeks, D. F. Jones Construction Co.. Pyramid Life Bldg.. Little Rock, Ark., \$36,185;
Tarrant—1.9 ml. grading, draining, conc., Highway 10. West Texas Construction Co., 501 E. Rosedale St., Fort Worth, \$66,200:
Hopkins—14.2 ml. grading, draining. Highway 154, Womack Henning Construction Co., Sherman. \$32,845; 3 steel, conc. and treated timber bridges and reconstructing old bridges, Highway 154, Swindell & Sanka, Yoakum, \$23,397;
Cherokee—3 conc. bridges. Highway 22, Cherokee—3 conc. bridges. Highway 22, conc. App. Democrates.

Yoakum. \$23.397;
Cherokee—3 conc. bridges. Highway 22, over One Arm, Dements and Beans Creeks, Swindell & Sanka, \$12.441;
Cadwell—168 ft. treated timber pile type bulkhead and 1200 ft. channel change for San Marcos River, site of bridge on Highway 3-A near Luling, Jagoe Construction Co., Denton. \$8275;
Calhoun—8.3 ml. shell surface, Highway 29, H. E. Denny, 1021 Caroline St., Houston. \$13,685.

Sewer Construction

Sewer construction in LAND DEVELOP-MENT projects involves the expenditure of large sums of money. Under that classifica-tion details of these improvements are re-ported.

La., Barksdale Field—Kirkwood, Wharton & Lee, 533 N. Flores St., San Antonio, Tex., reported, has contract for storm drainage system for constructing Q. M. 11-19

Md., Baltimore—Frank Angelozzi, 123 S. High St., reported, has contract for sewers, Storm Water Cont., No. 170, cost \$22,000. 12-3

Mo., Springfield—City votes Dec. 23 on \$200,000 bonds to complete sanitary sewer system including construction of northwest disposal plant.

Mo., St. Louis—Aldermanic Streets Committee, reported, approved ordinance appropriating \$68,720, from bond issue funds for maintenance of River des Peres drainage system; will repair damage caused by 2 earth slides in open channel of River des Peres, etc.; W. W. Horner, Ch. Engr. Paving and etc.; W Sewers.

N. C., Charlotte—See Want Section—Bids Asked.

Tex., Houston—See Roads, Streets and Paving.

Tex., Marshall—City, reported, plans water and sewer extensions and park improvements.

Va., Richmond—See Want Section—Bids Asked.

Telephone and Radio

La., New Orleans—Father Wallace Burk, Faculty Director of Station WWL of Loyola University, reported, construct new transmitter, cost \$\$0,000, about 10 miles from New Orleans on Chef Menteur Rd.; equipment will include 2 steel towers, 200 ft. high, transmitter shack, dynamos, etc.; also erect studio in business section, cost \$20,000.

Md., Baltimore—Bd. of Directors of Chesapeake & Potomac Telephone Co. of Baltimore City, authorized expenditure of \$111,550 for new plant and equipment to be added to telephone system in Baltimore; projects authorized are included in the \$185,-130 approved for additions and betterments to telephone system throughout Maryland, bringing total expenditures for similar improvements to telephone system in state, this year, to \$4,496,827.

Mo., Joplin-Wharton & Cline, reported, applied for construction permit; facilities of WMBH.

Tex., San Antonio—Southwestern Bell Telephone Co., Dallas, reported, plans replacing aerial cables with underground conduits in new locations incident to terminating cables at new central office building and Woodlawn exchange.

W. Va., Wheeling—WWVA, West Virginia Broadcasting Corp., reported, granted application by Federal Radio Comsn. for construction permit to make changes in equipment, move transmitter 8 miles northwest of city, and move studio locally in Wheeling.

Textile

Ala., Anniston—Avalon Building Co., Anniston, reported, will finance proposed addition to Utica Knitting Mills; cost \$100,000; Duke & Stickney, Anniston, reported, low bidders.

Ga., Summerville—R. C. Higgins, Asheville, N. C., representative telephone company, reported, plans improvements.

Mo., Cape Girardeau—J. J. Tow, Propr. South Cape Girardeau gauze plant, reported, plans complete rehabilitation of plant; increase operating capacity; install modern type machinery for manufacture cotton products.

N. C., Charlotte—Hudson Silk Hosiery Co., Inc., 712 N. Brevard St., reported, install \$50,000 machinery in mill addition under construction. 11-19

N. C., Huntersville—Johnston Mfg. Co., Horace Johnston, Johnston Bldg., Charlotte, plans reopening Anchor Mills Jan. 1; make necessary renovation and install machinery; O. L. Wagstaff, Thomasville, employed as superintendent.

O. L. Wagstaff, Thomasville, employed as superintendent.

S. C., Greenville—Gallivan Construction Co., Gallivan Bldg., Greenville, has contract for bleachery and dye house for Southern Weaving Co.; 1 story; brick; steel beams and wooden roof plank construction, steel sash and doors, 42x66 ft.; J. E. Sirrine & Co., Engrs., 215 S. Main St., Greenville.

S. C., Lancaster—Lancaster Cotton Mills advise recent report in error company acquired spindles and other equipment of Gilmer Mills at Shreveport.

S. C., Lancaster—Stockholders of Lancaster Cotton Mills, reported, approved consolidation of company with Eureka Cotton Mills, Chester, and Fort Mill Mfg. Co., Fort Mill; proposal provided that capital stock be increased from \$2,000,000 to \$4,500,000; stockholders and directors of Eureka Cotton Mills and Fort Mill Mfg. Co. will vote Dec. 28 on proposal.

Tenn., Loudon—Ed Rader, Lenoir City, reported, will superinted apparent of the second of the contractive of the contractive

Tenn., Loudon—Ed Rader, Lenoir City, reported, will superintend construction of full-fashioned hosiery plant for Charles H. Bacon Co., Lenoir City.

Co., Lenoir City. 11-26
Va., Charlottesville—Charlottesville Woolen
Mills, D. Van Wagner, Pre.s. let contract to
Allen J. Saville, Inc., Electric Bldg., Richmond, for constructing mfg. building; R.
H. Bouligny, Inc., 433 W. Moreland St.,
Charlotte, N. C., for light and power wiring;
Grinnell Co., Inc., 1431 W. Moreland St.,
Charlotte, N. C., for heating and sprinkler
equipment.
Va. Stunate Spectadona Willey

Va., Stuart—Spotsadonna Mills, Inc., capi-\$50,000, chartered; S. A. Thompson,

Water Works

Details of water works improvements in connection with the many LAND DEVELOP-MENT operations will be found under that Classification.

Fla., Pensacola—Layne-Central Co., Chelsea Ave., Memphis, Tenn., reported, low bidder for constructing gravel packed well at Naval Air Station, Corry Field, for Navy Dept.

Ga., Milledgeville—The McClelland Co., Latta Arcade, Charlotte, N. C., reported, has contract at \$25,475. for construction water system for Bd. of Trustees State Hospital; R. D. Cole Mfg. Co., Newnan, contract for

R. D. Cole Mfg. Co., Newnan, contract for tanks.

Ky., Versailles—Howard K. Bell, Conslt. Engrs., Lexingtotn, advises auxiliary water supply at Versailles will probably consist of about 6 miles of 8-in. c. i. pipe and an automatic electric pumping outfit in conc. pit and intake at Kentucky River to furnnish raw water 'to filters in city during dry periods; locations and plans not yet been made; bids probably received in Feb.

Md., Frederick—United States Pipe & Foundry Co., Morris Bidg., Philadelphia, Pa., reported, has contract for pipe for 3650 ft. of 18-in. main from venturi valve at 7th St. reservoir east to connect with lines at Brentz and Market Sts. on 7th St., for improvement water distribution system; purchasing committee will call for bids for valves; E. St. C. Maxwell, City Engr.

Md., Baltimore — Ligon & Ligon, 3310 Ridgewood Ave., reported, have contract at \$13,000 for warehouse and office alteration Mt. Royal Pumping Station.

12-3

Mo., Lees Summit—City plans voting on pands for electric light distribution system

Mo., Lees Summit—City plans voting on bonds for electric light distribution system and improvements to water works system; date of election not set; cost \$50,000; W. B. Rollins & Co., Engrs., 339 Railway Exchange Bldg.

N. C., Canton—Champion Fibre Co., advises plans for impounding dam across Pigeon River, include arch dam, 525 ft. long and 50 ft. high to be located near Sunburst on west fork of River have been submitted to contractors; contract to be let at once.

N. C., Charlotte—See Want Section—Bids Asked.

Tex., Gladewater—Sabine Water Co., capital \$15,000, incorporated; J. A. Johnson.
Tex., Marshall—See Sewer Construction.

Rusk-Reservoir-See Miscellaneous

Va., Roanoke—Whitman, Requardt & Smith, Baltimore Trust Bldg., Baltimore, Md., advises extent and character of water works improvements at Roanoke have not been fully determined.

Woodworking Plants

Fla., Live Oak—Standard Lumber Corp., reported, rebuild burned sawmill at Dowling Park.

Md., Baltimore—Joslyn Co. (Cross-Arm Mfrs.), Ninth St. and Chesapeake Ave., re-ported, construct \$24,000 building 901 Baltic St.; frame and brick; 1 story.

Mo., Cape Girardeau—Cape Butter Tub Co., E. W. Flentge, begin manufacture butter tubs, daily output 200.

N. C., High Point—Denny Veneer Co., W. Russell St., reported, construct warehouse; day labor.

FIRE DAMAGE

Ala., Talladega-Howell Tire Co.'s building. Ark., El Dorado—Unit of Root Refineries, Inc., loss \$10,000.

Ark., Forrest City—Seed houses of Forrest ty Cotton Oil Co.; loss \$250,000.

Ark., Rogers—Rooming house operated by Mrs. C. H. Pratt; owned by A. B. Parker. Mrs. C. H. Pratt; owned by A. B. Parker. Fla., Jacksonville—Two warehouses occupied by McGriffin & Co., general shipping agents, and warehouse of Seaboard Air Line Ry., W. D. Faucette, Ch. Engr., Norfolk, Va.; loss, reported, \$600,000.

Fla., Live Oak—Sawmill of Standard Lumber Corp. at Dowling Park; loss \$90,000.

Ga., Chipley—Chas. Jenkins Co.'s dry goods store.

Ga., Fitzgerald—H. & S. Department Store, Pine St.; owned by P. Halperin and H. Slack-man; loss \$10.000.

Ga., Rome—Mount Calvary Baptist Church, Colored; Henry Green's barn.
Ga., Rome—Machine shop and storage warehouse of Chenoworth Holder Lumber Co.; loss \$50,000.

Ky., Nicholasville—Tobacco and stock barn on Dr. H. L. McLean's farm, Handy's Bend Rd.; loss \$10,000.

La., Baton Rouge—Lenora Mumford's residence, 1633 Clark St.

La., Shreveport—Building Mooringsport Rd., of North Side Lumber Co., H. A. Lyons, Mgr.

La., New Orleans—Richardson Chemistry Bldg., Tulane University; loss \$10,000.

Md., Cresaptown—Benj. F. True's residence, Winchester Rd. near Cresaptown;
Mrs. Howard Longerbeam's residence additional control of the contr Mrs. H

Miss., Bay Springs—Consolidated School, Supt. J. B. Miskelly, Supt.; loss \$20,000.

Miss., Coahoma—Franks General Mercan-le Store, Joe Wing Co.; Dock Lee, Turner Slater general store, post office; loss \$125,-

Miss., Louisville—Tyson & Co.'s mercantile ore; loss \$40,000 to \$50,000.

Miss., Louisville-Section of Tyson Co.'s

Miss., Quitman-Moore Mercantile Co.,

Mo., Springfield—Anchor Mfg. Co.'s plant at Clay Ave. and Pythian St.; loss \$50,000. N. C., New Bern — Tabernacle Baptist Church; loss \$\$30,000.

Okla., Hugo—Armory of Service Battery, 158th Field Artillery, Oklahoma National Guard, Capt. A. D. Hanry, Commdr.

Okla., McAlester—J. B. Cambron's bldg. occupied by Clark Sporting Goods Co., Arn & Son Music Co., etc.; loss \$40,000.

S. C., Folly Beach—Cottage, 708 Arctic Ave., owned by Mitchell Robinson, 460 King St., Charleston; loss \$5000 to \$6000.

S. C., Isle of Palms—Post office; 3 dwellings owned by Forest M. Hudson; residences of J. J. Nelson, Leroy J. Hart and Mrs. Sarah H. Barnhill; loss \$20,000.

S. C., State Park—Annex to women's bldg., State Tuberculosis Hospital.

Tenn., Nashville—Gymnasium at Central High School, Rains Ave.; loss \$25,000. Tenn., Woodbury—W. G. Hollingsworth's residence; loss \$10,000.

Tex., Hillsboro—B. & J. Sales Co.'s bldg.; loss \$75,000, including stock. Tex., Mineral—School; loss \$7000; address Bee County Bd. of Education, Beeville.

Tex., San Antonio—Russell Oil Co.'s tanks. Va., Midville—Edw. Milner's residence, Burke County, 5 miles from Midville; owned by Ralph Sanderford, Midville.

W. Va., Berkeley Springs—Dwelling, Pendleton Hill, owned by C. E. Casler.

W. Va., Belington—O. O. Baughman's residence, owned by J. W. Thornhill; loss \$6000.
W. Va., Clarksburg—Quiet Dell Inn, Jas.
Fazio, owner; loss \$15,000.

BUILDING NEWS

BUILDINGS PROPOSED

Bank and Office

Va., Hampton—Peoples Building & Loan Assn. opens bids Dec. 15 for office bldg.; Chas. T. Russell, Archt., Union University.

Churches

Ala., Montgomery—Following estimating on bidg. for Court St. Methodist Church, A. C. Davis, Chmn., Bldg. Comm., 201 Montgomery St., bids due Jan. 5: Algernon Blair; Samford Bros., Inc.; J. O. Estes Co., all Montgomery; Smallman-MacQueen Co., Inc., 1109 Fifth Ave., South, Birmingham, and W. L. Coston Co., Bessemer; George Awsumb, Archt., Dermon Bldg., Memphis. Tenn. 12-3

Tenn.

Ala., Tuscumbia—Catholic Church, Rev. Francis McVeigh, Pastor, erect bldg.; H. A. Griffith, Archt., Sheffield, Ala.; stone work let to J. E. Condra, Memphis, Tenn.

D. C., Washington—St. John M. E. Church, Rev. M. Wilcox, Pastor, erect church, Stanton Rd., S. E.; U. J. Bank, Archt.

Ga., Bowman—Baptist Church, L. W. Hendrick, member, Bldg. Comm., plans brick bldg.

La., Alexandria—First Christian Church erect bldg., Jackson and Eighth Sts.; raze present church.

Md., Baltimore—St. Benedicts R.C. Church, Rev. Aloysius Luther, Pastor, plans 1-story brick bldg., 2600 block Wilkins Ave.; plans by Rev. Michael McInerney, Belmont, Abbey, Belmont, N. C., probably call for bids in Spring.

N. C., Fayetteville—St. Patrick's R. C. Church, Rev. Wm. J. Hafey, D. D., Bishop of Raleigh, Raleigh, erect brick church and rectory, Bradford and Arsenal Aves., Haymount.

N. C., New Bern — Tabernacle Baptist Church, Rev. J. L. Hodges, Pastor, soon start work on brick bldg, to replace structure noted burned at \$30,000 loss.

City and County

La., New Orleans—City Purchasing Agt., Room 24, City Hall, opens bids Dec. 22 for St. Bernard Public Market, St. Bernard and Claiborne Aves.; \$50,000, Spanish Mission type, brick and stucco, rein. conc. foundation, tile roof, struc. steel and iron work, steel sash, sheet metal work, tile work; plans from Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg. 11-19

work; plans from Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg. 11-19
Miss., Monticello—Lawrence County Bd. of Supvrs., J. F. Sills. Pres., opens blds Dec. 26 for repairs and alterations to 3-story brick court house lately damaged by fire; rebuild second and third floors, tile roof, cast stone work, steel trusses, copper gutters, brick work, kalameln doors, court room acoustical equipment, plumbing, heating, metal and wood equipment, etc.; \$25,000; plans from N. W. Overstreet, Archt., Standard Life Bldg., Jackson. 12-3
Va., Clarendon—Arlington County Bd. of Supvrs. having preliminary plans drawn by A. F. Thelander, Archt., Rees Bldg., Clarendon, for 2-story addition to court house brick, tile and steel joists and conc. slab, 40x60 ft., comp. floors, conc. foundation, built-up roof. 12-3
Va., Richmond—Dept. of Public Works has

Va., Richmond—Dept. of Public Works has low bid at \$11,000 from Davis Bros., Inc., 15 N. Sixth St., for brick stable for street

Dwellings

Ark., Fort Smith-Heber Denman started

work on brick and hollow tile residence, Wiest St. and Horan Drive, Hendricks Hills; Colonial type, 2 stories.

D. C., Washington—Vernon G. Owen, 1431 I St., N. W., has permit for \$10,000 residence and \$3000 stable and garage, 5366 27th St., N. W.; brick, 2 stories.

D. C., Washington—B. B. Horn erect residence, Eighth and Van Buren Sts.; W. S. Flagler, Archt., 1930 Kearney St., N. W.;

Fla., Fort Pierce—Mrs. Lou E. Speer, Jacksonville, plans several dwellings during next several months.

Fla., Fort Pierce—Ashley King plans 6-oom bungalow, Delaware Ave. near Cobb's

Fla., Miami Beach—Lindsay Hopkins, John A. Jernigan, Agt., Olympia Bldg., Miami, receiving bids from O. M. Bristol, 2045 N. W. Fourth St., Miami, Webb & Mevers, Nelson R. Boice, Miami Beach, and probably others, no date set for closing, for residence, Sheridan Ave, vicinity; Frank Wyatt Woods, Archt., Ingraham Bldg., Miami.

Md., Baltimore—M. M. Esterson, 423 S. Hanover St., erect 2-story brick residence, Bancroft Rd.; Fredk. Thomas, Archt., 726 E. 33rd St.; bids Dec. 4.

Md., Baltimore—J. H. Fehrmann, 4718 Frederick Ave., erect brick and shingle residence, 520 S. Smallwood St.; 2 stories, 13x 42 ft.

Md., Baltimore—Bernard F. Owens, Archt., 20 E. Lexington St., drawing plans for 2-story brick dwelling, Brookwood Rd.

Md., Leonardtown—St. Aloysius R. C. Church erect 2-story and basement brick rectory; R. E. Mitchell, Archt., 7 E. Melrose St., Chevy Chase; bids in.

Tex., Dallas—R. L. Ferguson, Fidelity Union Bldg., has permit for 2 brick veneer dwellings; 12 and 6 rooms; total \$10,000.

Government and State

Ala., Montgomery—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., opens bids Jan. 5 for \$\$45,000 post office; Frank Lockwood, Archt., 119 Adams Ave., Montgomery; drawings from office Supvg. Archt. 10-29

wood. Archt., 119 Adams Ave., Montgomery; drawings from office Supvg. Archt. 10-29
D. C.. Washington—Prospective estimators on \$6,500,000 addition to Library of Congress, bids Jan. 12 by Architect of the Capitol, David Lynn: Allied Construction Industries, 626 Broadway, Cincinnati, O.; H. R. Blagg Co., 1229 E. Third St., Dayton, O.; Boyle-Robertson, 818 Evans Bldg.; John W. Cowper Co., Natl. Press Bldg.; George A. Fuller Co., Munsey Bldg.; Geo. Hyman Construction Co., 1010 Vermont Ave.; Arthur L. Smith & Co., 2539 Pennsylvania Ave. N. W.; United Construction Co., Tower Bldg., all Washington; Consolidated Engineering Co., Inc., St. Paul and Franklin Sts.; J. Henry Miller, Inc., Miller Bldg.; M. A. Long Co., 10 W. Chase St.; North-Eastern Construction Co., 6 W. Madison St.; Henry L. Maas & Sons, 1119 Ensor St., all Baltimore, Md.; Arey-Hauser Co., Elverson Bldg., Philadelphia, Pa.; Aronberg-Fried Co., Inc., 155 E. 44th St., New York; M. H. Sobel Co., 1031 First Natl. Bank Bldg., Detroit, Mich. 12-3 D. C., Washington—Architect of the Capitol, David Lynn, expects to have plans and specifications ready for bids within few weeks for fire protection for Capitol and Senate Office bldg.; \$100 000; Pierson & Wilson, Asso. Archts., 1621 Connecticut Ave.

Fla.. Fort Lauderdale—U. S. Coast Guard Headquarters, Washington, has low bid at \$26,212 from J. A. Hunt, Hallandale, Fla., for frame barracks; 1 and 2 stories, 53.4x160 ft., wood floors, conc. foundation, asbestos shingle roof. shingle roof.

ft., wood floors, conc. foundation, asbestos shingle roof.

Fla., Jacksonville — Following prospective estimators on \$600,000 parcel post bldg. lighting fixtures, bids Dec. 15 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt. Washington; J. Schoenback Electric Co., 834 Sutter Ave., Brooklyn, N. Y.; Blumenthal-Kahn Co., 518 N. Charles St., Baltimore, Md.; J. A. Framburg & Co., 3320 Carroll Ave.; Curtis Lighting, Inc., 1123 W. Jackson Blvd., both Chicago, Ill.; Zenith Electric Co., Inc., 620 Manida St., Bronx, N. Y.; Moe-Bridges Co., 236 Broadway, Hilam, Inc., 630 N. Jackson St., both Milwaukee, Wis.; Chas. Kimmick, Frink Corp., Long Island City, N. Y.; Maier Electric Co., 213 E. Hennepin St., Minneapolis, Minn.; Michigan Chandelier Co., 3130 Chene St., Detroit, Mich.; Edwin F. Guth Co., Jefferson and Washington Ave., St. Louis, Mo.; F. W. Wakefield Brass Co., Vermillion, O.; Kayline Co., 600 Huron Rd., Perfectlite Co., 1457 E. 40th St., both Cleveland, O.; Ivanhoe Division, Miller Co., Meriden, Conn.; Tioga Contracting Co., 921 W. Tloga St.; Mulhern Electric Co., 1nc., 1328 N. 17th St., both Philadelphia, Pa.; Reading, Pa.; C. E. King, 1009 Wertland St., Char-

lottesville, Va.; Newman Manufacturing Co., Norwood Station, Cincinnati, O.; American Electric Supply Co., 1504 McDuff Ave., Miller Electric Co., 487 Riverside Ave., both Jack-sonville, Fla.; M. Elsenberg & Son, Inc., 224 Center St., New York.

Center St., New York.

Fla., Miami—Additional prospective estimators on \$65,000 quarantine station, bids Dec. 10 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: Earl E. Garber & Co., 203 W. Fourth St., Bethlehem, Pa.; O'Neill & Orr Building Corp., 604 Fifth St.; Lindabury Construction Co., 744 Jefferson Ave.; G. O. Reed, Inc., Box 228, all Miami Beach; Chas. B. Colby & Sons, Inc., Drawer 1, Coconut Grove, Fla.; O. P. Woodcock Co., Duval Bldg., Jacksonville, Fla.; R. G. Witters Co., 1745 S. W. Sixth St.; M. F. Comer Bridge & Foundation Co., 1000 N. W. North River Drive, both Miami; Samford Bros., Inc., 301 Washington Ave., Montgomery, Ala.

Fla., St. Petersburg—National Contracting

Fla., St. Petersburg—National Contracting Co., 2114 Foshay Tower, Minneapolis, Minn., and Grahn Construction Co., Red Rock Bldg., Atlanta, Ga., estimating on Veterans Administration Home, bids Jan. 20 by Veterans Administration, Arlington Bldg., Washing-

Administration, Arlington Bldg., Washington.

Ga., Atlanta—Additional prospective estimators on superstructure of \$1,500,000 postoffice and Federal bldg., bids Dec. 28 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: Don J. Byrum, Inc., 400 Haddale Ave., Wheeling, W. Va.; National Construction Co., Tower Bldg., Washington: J. A. Jones Construction Co., Commercial Bank Bldg., Charlotte, N. C.; Fleisher Engineering & Construction Co., 410 N. Michigan Ave., Chicago, Ill.; Mid-Eastern Construction Co., Shrine Bldg., Memphis, Tenn.; Batson-Cook Co., Inc., West Point, Ga.; Newman Manufacturing Co., Cleneay St., and N. & W. R. R., Cincinnati, O.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; Ralph Sollitt & Sons Construction Co., 228 N. LaSalle St., Chicago, Ill.; Murch Bros. Construction Co., Ry. Exch. Bldg., St. Louis, Mo.; United Construction Co., Washington; McCauley & Co., Bona Allen Bldg., Atlanta; Henry Ericson Co., 228 N. LaSalle St.; Great Lakes Construction Co., 333 N. Michigan Ave., both Chicago; B. W. Construction Co., 228 N. LaSalle St.; Great Lakes Construction Co., Budg., Washington; A. M. Lundberg, Ry. Exch. Bldg.; Boaz-Kiel Construction Co., 1206 Ambassador Bldg., both St. Louis; Spink Construction Co., Investment Bldg., Washington; James I. Barnes, Logansport, Ind.; R. B. McDaniel Co., New Brighton, Pa.; Brasted Co., 452 N. Main St., Wichita, Kan.; Robt. E. McKee, 1900 Texas St., El Paso, Tex.; Pike & Cook Co., Inc., 416 S. Fifth St., Minneapolis, Minn. 12-3 Kanover St.; W. T. Congleton Co., Third

Ky., Lexington—J. Henry Hall, 225 S. Hanover St.; W. T. Congleton Co., Third and Walton Sts.; Louis des Cognets & Co., Main St. and Forest Ave.; Clarke, Stewart & Wood Co., 254 Irvine Rd.; Phoenix Lumber Co., 410 Georgetown St., Lexington Quarry Co., Inc., 760 N. Limestone St., all Lexington; Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill.; National Contracting Co., 2114 Foshay Tower, Minneapolis, Minn.; all prospective estimators on foundations for \$5,000,000 narcotic farm, bids Dec. 14 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington.

La., Barksdale Field, Shreveport—Constructing Quartermaster let contract at \$56.394 to W. C. Salley, Ouachita Natl. Banksdale Field Quartermaster has low bid at \$24.250 from Southwestern Specialty Co., 125 Guadalupe St., San Antonio, Tex., for kitchen equipment.

La., Morgan City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt.. Washington, reported, has low bid at \$52,380 from Algernon Blair, First Natl. Bank Bidg., Montgomery, Ala., for post office. 11-26

Md., Crisfield—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, selected site for \$105,000 post office. 1-15

selected site for \$105,000 post office. 1-15
Miss., Columbia—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, selected Shourds & Bean, 702 Bank of Gulfport Bldg., Gulfport, Miss., as architects for post office, Main St. 10-15
Okla., El Reno—Dept. of Justice, Bureau of Prisons, Washington, advises contract for first unit of \$3,000,000 Federal Reformatory has not been awarded; Hawk & Parr, Archts., First Natl. Bank Bldg., Oklahoma City, Okla. 12-3
Okla. Okmulgee Prospective estimators

Okla., Okmulgee — Prospective estimators on \$350,000 post office, court house, etc., except elevator, bids Dec. 28 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: H. W. Underhill Construction Co., 235 N. Waco Ave., Wichita, Kan.; Wm. Peterson, Donaghey Bldg., Little Rock, Ark. 12-3

Tenn., Elizabethton—Additional prospective estimators on post office, bids Dec. 11 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington: J. C. Crumley, Elizabethton; S. D. Cox Co., Deaderick Bidg.; A. R. McMurry, 425 W. Clinch Ave., both Knoxville, Tenn.; Green & Stowe, 532 McDowell St., Welch, W. Va.; Phelps-Drake Co., Inc., Metro. Life Bldg.; Splady & Haagenson, Pence Bldg., both Minneapolis, Minn.; Algernon Blair, First Natl. Bank Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; Murphey Pound, Box 422, Columbus, Ga.; Adams Construction Co., Woodward Bldg., Washington; Joe B. Martin, Kenney Bldg., Charlotte, N. C.; Arthur F. Perry, Jr., Barnett Natl. Bank Bldg., Jacksonville, Fla.; Barge-Thompson Co., 136 Ellis St., Atlanta, Ga.; Jones Bros. & Co., Box 1454, Wilson, N. C.; H. W., Torbert, 323 Ocean Ave., Ocean City, N. J.; May Construction Co., Arcade Bldg., Columbia, S. C.; A. F. Hahn, Chamberlain Bldg., Chattanoga, Tenn.; Earl E. Garber & Co., Bethlehem, Pa.; C. A. Morrison & Son, Shelby, N. C. 12-3

Va., Hampton Roads, Norfolk—Navy Dept., Bureau of Yards and Docks, Washington, allocated \$350,000 for constr. and other work; opens bids Jan. 6 on \$200,000 administration bldg. for air station offices and offices of fleet's air force: U-shape, 3 stories, front wing 214 ft. wide, side wings 128 ft. deep. landing field by removing officers' quarters; contract to be let at Air Station to relocate quarters.

Hospitals. Sanitariums, Etc.

Hospitals. Sanitariums, Etc.

Ala., Mobile—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, soon call for bids for \$450,000 bldg., U. S. Marine Hospital; W. C. Spiker & Co., Engr., Standard Bidg., Atlanta, Ga.; Warren, Knight & Davis, Protective Life Bidg., Birmingham, Ala., and Chandler C. Yonge, Merchants Natl. Bank Bidg., Mobile, Archts.

Ark., Hot Springs National Park—Constructing Quartermaster opens bids Jan. 20 for superstructure of \$1.500.000 hospital; rein. conc., light colored brick, white stone and wrought fron trim, steel sash and trim, 128-ft. center section, two 307-ft. wings, 190-ft. tower, 412 beds; National Construction Co., 2114 Foshay Tower, Minneapolis, Minnestimating.

Tex., Galveston—Treasury Dept., Jas. A.

estimating. 11-19
Tex., Galveston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has late low bid at \$59.485 from J. J. Fritch, Dallas, for 2 officers' quarters and recreation bldg., Marine Hospital. 12-3

bldg., Marine Hospital. 12-3

Tex., Houston—General Hospital Comm.
for City of Houston and Harris County
approved plans for \$1,500,000 charity hospital, Buffalo Drive; special comm. under
Wm. Strauss appointed to arrange financing;
Alfred C. Finn and Jos. Finger, Associated
Archts., 6110 Bankers Mtz. Bldg., Houston;
Dr. Christopher Parnall, Medical Consultant,
Rochester, N. Y. 11-6

Hotels and Apartments

D. C., Washington—David L. Stern, Archt., 1412 I St., N. W., completed sketches for brick and rein. conc. apartment, northwest section: 8 stories, 100x140 ft., limestone trim; archt. to let sub-contracts.

trim; archt. to let sub-contracts.
Ga., Atlanta—J. J. Page, Jr., Mgr., Atlantan Hotel, Luckie and Cone Sts., expend \$20,000 for improvements, including recarpeting and refurnishing.
La., Baton Rouge—S. J. Britton, reported, representing Eastern hotel interests planning \$650,000 hotel. North and Third Sts.; 200 rooms, face brick, 14 stories, rein. conc. founation, struc. steel, stone, 200 rooms, garage in basement; shops, restaurant and barber shop on ground floor; roof garden; tub, shower and radio in each room; Favrot & Livaudais, Ltd., Archts., Hibernia Bldg., New Orleans.

Md. Mt. Ranier—R. E. Mitchell. 7 Mel-

Md. Mt. Ranier—R. E. Mitchell. 7 Mel-rose Ave., Chevy Chase, complete plans about Jan. 1 for brick and hollow tile apartment; 2 stories, slag roof, hot water heat.

Miscellaneous

Fla., Miami—Miami Solarium, 125 S. W. 30th Court, erect 2 corridors to connect bldgs.; rein. conc. and conc. block; Geo. Bruce, Archt.. 518 Security Bldg.; owner probably build.

Schools

Ala., Tuskegee—Tuskegee Normal & Industrial Institute, L. H. Persley, Head, Architectural and Mech. Drawing Div.; Fosdick & Hilmer, Conslt. Engrs., Union Trust Bldg., Cincinnati, O., advise bids on mech. equipment, including plumbing, heating, ventilating, elec. work and elec. lighting fixtures, and elevator will be called for about Dec. 13 C. E. Posey, Engr., 2189 11th Court,

South, Birmingham, Ala.; T. C. Windham & Sons, Contrs., 1620 Fourth St., N., Birmingham. 11-19

mingham.

D. C., Washington—Prospective estimators on addition to Douglass and Simmons schools, bids Dec. 11 by Dist. Commrs., Dist. Bidg.; Bradbury & Mohler; Industrial Engineering & Construction Co., 1909 Minnesota Ave., S. E.; Skinker & Garrett, 1719 I St., N. W.; Frank L. Wagner, Inc., 10 L St., N. E., all Washington; A. Lloyd Goode, Inc., 328½ N. Tryon St., Charlotte, N. C.; North-Eastern Construction Co., 6 W. Madison St.; Lacchi Construction Co., Munsey Bldg., both Baltimore, Md.; Mid-Eastern Construction Co., Box 262, Wilmington, Del. 12-3

D. C., Washington—Prospective estimators on addition to Medical School and Hospital for George Washington University, bids Dec. 15: Bahen & Wright, 916 R. I. Ave., N. E.; H. W. Cord Co., 1003 K St., N. W.; Davis, Wick, Rosengarten Co., 1nc., 1406 G St., N. W.; DeSibour Construction Co., 2009 R St., N. W.; H. Herfurth, Ir., Inc., Dist. Natl. Bk. Bldg.; Industrial Engineering & Construction Co., 1908 Minnesota Ave.; W. E. Mooney Co., 2539 Pa. Ave., N. W.; E. A. Passagno Co.; Skinker & Garrett, 1719 I St., N. W.; Arthur L. Smith & Co., 2539 Pa. Ave., N. W.; Charles H. Tompkins Co., 1608 K St., N. W.; Frank L. Wagner, Inc., 10 L St., S. E.; R. P. Whittly Co., Inc., Denrike Bldg.; Detlow M. Marthinson, 3603 Cumberland St., N. W.; F. W. Burnett, 832 D St., S. E.; T. T. Taylor Co., Inc., Commercial Natl. Bk. Bldg.; J. H. Coleman & Son, 1406 G St., N. W.; plans by C. E. Merry, Asst. to Comptroller, with Leo Raywid, Constt. Engr. 11-26 La., Houma—Terrebonne Parish School Bd.

La., Houma—Terrebonne Parish School Bd. rejected bids for colored elementary school; receive revised bids Dec. 14 from T. A. Pittman, Inc., Canal Bank Bldg., Herman T. Makofsky, 3034 Palymra St., both New Orleans, and C. D. Duplantis, Houma; T. G. Chachere, Daspit Bldg., Houma, and Theard & Matthews, Balter Bldg., New Orleans, Asso. Archts.

Ky., Louisville—City Bd. of Education, Saml. D. Jones, Bus. Director, plans junior and senior high school; Collegiate Gothic type, brick, stone trim, \$900,000; J. M. Colley, Bd. of Education Archt., Eighth and Chestnut Sts. Bd. changed bldg, program, temporarily eliminating additions to Hazelwood and Albert S. Brandeis schools; also defer action on additions to Longfellow and J. Stoddard Johnston schools; J. Meyrick Colley, Archt., 1441 Dove Rd. 10-7 Bd. of Education,

Md., Bethesda—Montgomery County Bd. of Education, Rockville, opens bids Dec. 18 for kindergarten; brick and conc., 1 story, 24.6x69.1 ft., linoleum and tile floors, conc. foundation, built-up comp. flat roof, ventilators; Howard W. Cutler, Archt., 1108 16th St., N. W.; W. I. Collier & Co., Engr., 522 Park Ave., Baltimore, Md. Address Owner. See Want Section—Building Material and Equipment.

Miss., Scooba—E. M. Junior College, Prof. J. D. Wallace, Supt., opens bids Dec. 18 fcr gymnasium to replace burned structure.

Okla., Muskogee—Bacone College, Dr. B. D. eeks, Pres., has fund gift to erect art dept.

Weeks, Pres., has fund gift to erect art dept. bldg.

S. C., Chesnee—School Dist. Bd. No. 11, B. L. Hopper, Chmn. of Trustees, plans \$12,-000 school to replace burned structure, Cooley Springs, R. F. D. Chesnee; 1 story, brick veneer; furnishings, equipment, etc., \$500 to \$1500; J. F. Brooks, Spartanburg County Supt. of Education, Spartanburg.

Tex., Arlington—North Texas Agricultural College, F. M. Law, Chmn., Bd. of Directors, erect \$17,000 gymnasium and assembly hall bldg.; 1 story; Prof. F. E. Giesecke, College Archt., College Station—Texas A. & M. College atthorized Prof. F. E. Giesecke, College Archt., to draw up plans for \$200,000 veterinary hospital group, \$250,000 animal industry bldg., \$250,000 petroleum engineering bldg., and for administration bldg.; \$200,000 agricultural bldg. soon to be started; construct. conc. swimming pool.

Tex., San Antonio—City Bd. of Education and low bld at \$24450 from Construct.

agricultural bldg. soon to be struct. conc. swimming pool.

Tex., San Antonio—City Bd. of Education has low bid at \$24,450 from Cone Construction Co., Alamo Natl. Bank, for addition to Milam School No. 4; plumbing and heating low bid, A. J. Monier & Co., 1446 N. Flores St., \$4269; elec. work, Crowther Electric Co., 2016 Broadway, \$544; Henry T. Phelps, Archt., Hicks Bldg., and Henry Steinbomer, Western Natl. Bank Bldg., Asso. Archts.; L. D. Royer, Mech. Engr., Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg.

Va., Danville—City Bd. of Education plans colored school, New St., North Danville; \$35,000.

W. Va., Charlotte—City Bd. of Education may erect \$50,000 second ward school.

Stores

Ala., Birmingnam—Hill Grocery Co., 230 S. 16th St., erect brick and cast stone trim store, Bessemer Blvd.; 1 story, 70x70 ft., terrazzo, conc. and wood floors, built-up roof; Chas. H. McCauley, Archt., 709 Jackson Bldg.; bids in.

La., New Orleans—Anthony J. Sciambra, 2511 St. Ann St., considers erecting bldg., St. Anthony and Twiggs Sts.; work probably start in 6 months.

Tex., Fort Worth—John Sappington, 1226 Fifth Ave., erect brick store, Magnolia Ave. and Fifth St.; 1 story, 42x82 ft., steel joists, steel roof deck, metal ceiling, built-up and

clay tile roof, elec. fans; C. H. Leinbach, Archt., Centl. Bk. Bldg., Dallas; plans about complete.

Va., Norfolk—L. F. Everett has low bid at \$12,155 from Johnson Construction Co., Inc., Law Bldg., for store and apartment.

Theatres

S. C., Columbia—Paramount Publix Theaters, Paramount Bldg., New York, leased theater; expend \$10,000 to remodel.

Va., Norfolk—W. S. Wilder, Director, New-port Theatre, plans theater, Colley and Shir-iey Aves.; Bernard Spigel, Archt., New Mon-roe Bldg.

BUILDING CONTRACTS AWARDED

Bank and Office

D. C., Washington—American Security & Trust Co., 15th St. and New York Ave., remodel bldg.; 631 Massachusetts Ave., N. W.; elevator; Schneider-Spliedt Co., Contr., 1416 F St.

La., New Orleans—Standard Oil Co. of Louisiana alter interior of bldg., 1535-39 Jackson Ave.; \$10,700; Merritt-Chapman & Williams, Contrs., 833 Howard St.

Churches

Md., Chevy Chase, Branch Washington, D. C.—Chevy Chase Presbyterian Church, reported, let contract to J. J. McDevitt Co., Charlotte, N. C., for parish house; brick, rubble stone, conc. and rein. steel, 3 stories, 41x112 ft., steam heat; Mayers, Murray & Phillip, Archts., 2 W. 47th St., New York.

City and County

Mo., St. Louis—Kaysing Iron Works, 2701
N. 25th St., reported, has contract for 100
tons fabricated struc, steel for \$100,000 Biddle Market for Bd. of Public Service; Albert
Osburg, Archt.; L. R. Bowen, Engr., both
City Hall; Kaplan-McGowen Co., Contr., 315
N. Seventh St.

Tex Ric Spring—City E. V. Service

N. Seventh St.

Tex., Big Spring—City, E. V. Spence, City Mgr., let contract at about \$140,000 to C. S. Lambie & Co., Amarillo Bldg., Amarillo, for combined auditorium, fire station and city hall bldg.; semi-fireproof, struc. clay tile, struc. steel and rein. conc., 2 stories, 130x225 ft., conc., terrazzo, tile and linoleum floors, conc. foundation, clay and built-up roof, cast stone, limestone, marble, metal doors, steel sash and trim, hollow tile, terra cotta trim, vaults, ventilators, brass and bronze work: Peters, Strange & Bradshaw. Archts., Myrick Bldg., Lubbock, and Big Spring.

Dwellings

Ala., Birmingham—L. C. Sims, Crestline Heights, erect stone veneer residence, Montevallo Rd.; 1½ stories and basement, 50x30 ft., hardwood and tile floors, comp. roof; day labor.

D. C., Washington—W. D. Sterrett, 35th and Rodman Sts., N. W., erect 3 hrick and hollow tile dwellings, 3520-30-40 Van Ness St., N. W.! 2 stories, 26x34 ft., oak, linoleum and tile floors, tile and brick foundations, slate roofs, hot water heat; total 825,000; W. R. Lamar, Archt., 2224 Cathedral Ave., N. W.; Morrison Bros., Contrs., Bethesda. Ave., thesda.

D. C., Washington—H. G. Smithy Co., 1418 I St., erect 10 brick dwellings, 326-40 Madison St.; 2 stories, tin roofs, hot water heat; total \$60,000; owners build.

D. C., Washington—V. G. Owens, Valley Vista Apts., Belmont Rd. and Ashmeade Pl., N. W., let contract to R. L. Jennings, Oxford Bidg., for brick and local stone residence, 27th St., N. W.; 2½ stories, slate roof; Geo. T. Santmyers, Archt., 925 15th St., N. W. 11-12

D. C., Washington—Azell M. Sheppard.
Bond Bldg., erect \$10,000 dwelling, 5747
Nebraska Ave.; brick, 2 stories, slate roof,
hot water heat; owner builds.
D. C., Washington—C. J. Harnett, 1727 K
St., N. W., erect 7 brick dwellings, 1310-30
Oran St., N. E.; 2 stories, slag roofs, hot
water heat; total \$46,000; C. W. Gosnell,
Contr., 1727 K St., N. W.

Fla., Miami Beach—J. P. Stolpman, 541
Jefferson Ave., let contract to Jesse P.
Montz, 653 Washington Ave., for rein conc.,
conc. block and stucco bungalow, etc., Royal
Palm Ave.; 1 story; C. B. Schoeppl, Archt.
2382 N. Alton Rd., Miami.

12-3
Fla., Vero Beach—Beachland Development

Fla., Vero Beach—Beachland Development Co. erect \$10,000 tile and stucco residence,

Riomar Rd. and Indian Ave.; 1 story, 40x42 ft., tile, oak and pine floors, comp. roof; day labor.

La., New Orleans—Geo. J. Stoll, Contr., 2510 Eads St., erect raised double dwelling, Galvez St.; warm air heat, asbestos roof, orna. iron, sheet metal work, tile work.

Md., Baltimore—Jas. C. Byrne, 231 St. Paul Place, erect 4 brick dwelllings and garages; 2 stories, 16x45 ft. and 10x20 ft. Geo. Wessell, Archt., 601 W. 40th St.; owner

Md., Baltimore—Herbert C. Tegeder, 5704 Harford Ave., erect brick and frame resi-dence, Evergreen and Sefton Aves.; 28x40 ft.; owner builds.

Md., Baltimore—Crown Realty Co., Chas. C. Krauss, 2913 Rosalle Ave., erect 2 or 4 dwellings; 1 story, brick; may start work early in year.

Md., Baltimore—Thrift Construction Co., Alton T. Nichols, 3500 Wabash Ave., may erect number 2-story brick dwellings and garages, Rosedale Rd.

Md., Catonsville, Baltimore—Fredk. C. Reitze, Forest, Drive, plans several 2-story brick dwellings; work may start in Spring. Md., Towson, Baltimore—W. D. Heim, Bldr., Murdock Rd., Anneslie, erect frame dwelling, Joppa Rd.; 2 stories, 30x30 ft.; owner builds.

Mo., St. Louis—H. Rolfes, 4040 Itaska St., erect 3 brick dwellings, 3947-53 Delor St.; 1 story, 24x44 ft., asphalt shingle roofs, hot air heat; total \$13,500; plans and constr. by owner.

by owner.

Tex., Fort Worth—Stanley A. Thompson, Electric Bidg., erect \$50,000 residence, 500 Alton Rd., Briar Hill, stone veneer, 2 stories and basement, 58x126 ft., oak and maple floors, magnolia, oak and pine trim, slate, tile, conc. terrazzo, oak paneling, steel sash, metal lath, overhead doors, 3 tile baths, 2 tile lavatories, plate and leaded glass, incinerator, steam heat; Jos. R. Pelich, Archt., 1105 Aviation Bldg.; J. N. Bradshaw, Contr., 808 Morningside St.

Tex., Fort Worth—Byrne & Luther, West-

Tex., Fort Worth—Byrne & Luther, West-over Hills, erect 2 dwellings, about \$30,000 each; owners build.

each; owners build.

Tex., San Antonio—Wm. R. Levy, 1214
Blanco Road, let contract to J. J. Schneider,
428 Berkshire St., for 2-story frame residence,
Pearl Court, Blanco Rd.

Tex., Victoria—Dennis M. O'Connor started
work on \$10,000 Colonial residence, Moody
and Commercial Sts.; frame, 2 stories, 8
rooms; Fred Urban, Contr.

Va., Richmond—T. F. Gill, 2913 Edgewood
Ave., erect \$10,000 residence, 2924 Chamberlayne Ave.; City Building Corp., Contr.,
Builders Exch. Bldg.

Va., Williamsfurg—B. D. Peachy erect

Builders Exch. Bldg.
Va., Williamsburg—B. D. Peachy erect
\$16,000 residence; brick veneer, 2 stories,
78x28 ft., random slate roof, brick foundation; address proposals on furnishings, equipment, etc., \$1000, to owner; Elmer Cappelman, Archt., 110 N. Seventh St., Richmond.

Government and State

Ala., Maxwell Field, Montgomery—Constructing Quartermaster let contract at \$216,719 to Samford Bros., Inc., 301 Washington Ave., Montgomery, for 21 company officers' quarters; brick, hollow tile, stucco, 2 stories, conc. foundation, wood and tile floors, tile roof, steam heat, steel sash. 11-26

tile roof, steam heat, steel sash. 11-26
Fla., Miami—Additional sub-contracts let
on \$2,080,000 post office, etc.; Millwork, Gate
City Sash & Door Co., 37 N. E. First Ave.,
Miami, and Fort Lauderdale; hollow tile,
gypsum block and rein. steel, Greater Miami
Brick Co., Inc., N. W. 30th St.; sand-lime
brick, I. E. Schilling Co., S. W. Fourth St.,
Miami; painting, J. A. Hovart, 652 N. W.
22nd St., both Miami; waterproofing, Guaranteed Waterproofing Co., Atlanta, Ga.; orna.

iron, Polk City Iron Works, Lakeland. Fla.; Ralph Sollitt & Sons Construction Co., Contr., 1203 Realty Bd. Bldg., Miami, and 228 X, LaSalle St., Chicago, Ill.

LaSalle St., Chicago, Iil.

Ky., Pikeville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, let contract at \$42.970 to Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for post office, etc.

North Carolina—Mill & Marine Electric, Inc., Comm. Bank & Trust Bldg., Gastonia, has wiring and elec. contracts for 6 prison camps. Haywood, Granville, Cabarrus, Cleveland, Northampton and Cumberland counties, for State Highway Comsn., Raleigh; Bumgarner Electric Co., Hickory, wiring for Catawba County camp; J. C. Moore, Warren, wiring for Warren County camp.

Okla., McAlester — Cook-McDonnell Co.,

wiring for Warren County camp.

Okla., McAlester — Cook-McDonnell Co., 627½ W. Second St., Oklahoma City, has contract for 1000-h.p. turbo generator set for State Penitentiary; \$64,000.

Okla., Sapulpa—Treasury Dept., Jas. A. Wetmore. Act. Supvg. Archt., Washington, let contract at \$75,000 to Holmboe Construction Co., Petroleum Bidg., Oklahoma City, Okla., for post office.

Tex., Austin—State Bd. of Control. Claude D. Teer, Chmn., let contract at \$36,425 to J. J. Wattinger, Box 242, to remodel bldg. for State offices; plumbing and heating. John L. Martin. 410 Congress Ave., at \$1815 and \$3212; wiring. Ed. Tengg. 220 W. Commerce St. San Antonio. at \$1808; W. E. Ketchum, Archt., Pope Bldg., Austin.

Tex., Fort Worth—H. A. Framburg & Co., Chicago, Ill., has interior lighting fixtures contract at \$4966 for \$1,240,000 post office.

Tex., Schulenberg—R. E. Boettcher let con-

Tex., Schulenberg—R. E. Boettcher let contract to Frank Pohlmann, Schulenberg, for brick and stone post office; 1 story, 66x30 ft., rein. conc. foundation; Atlee B. & Robt. M. Ayres, Archts., Smith-Young Tower, San 11-26

Altonio.

Va., Martinsville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, reported, let contract to Tioga Contracting Co., 921 W. Tioga St., Philadelphia, Pa., for \$20,000 post office remodeling and enlarging.

Hospitals, Sanitariums, Etc.

N. C., Oteen—Moffatt Machinery Co., 526 W. Third St., Charlotte, has contract at \$12,245 for elevator and dumb waiter for bldgs, and utilities for Veterans Administration Hospital; Henry B. Ryan Co., 510 N. Dearborn St., Chiicago, Ill., gen. contract at \$538,000.

Hotels and Apartments

D. C., Washington—Max Simon, 3720 Nichols Ave., S. E., erect \$18,500 brick apartment, 3325 Nichols; 2 stories, slag roof, vapor heat: R. C. Archer, Jr., Archt., 1759 U St., N. W.; owner builds.

D. C., Washington—Webster Construction Co. has permit for \$200,000 apartment, 5521 Colorado Ave., N. W.; brick and conc., 5 stories; Geo. T. Santmyers, Archt., 925 15th St., N. W.

Fla., Sebring—Hygema & Allyn, Inc., Contrs., erect \$12,000 negro hotel; stucco over frame, 2 stories, 36x100 ft., wood floors, cement foundation, built-up roof; furnishings, equipment, etc., \$1500; may erect number of similar hotels. See Want Section—Building Material and Equipment.

ber of similar notels. See wan Section
Building Material and Equipment.

Md., Baltimore—York Apartment Co., care
Marion J. Nasco, Archt., 14 E. Lexington St.,
receiving new bids for 39-suite brick apartment. York Rd. section; 6 stories, 45x110
ft.; R. P. Whitty Co., Inc., Denrike Bldg.,
Washington, and Cogswell Construction Co.,
406 Park Ave., Baltimore, estimating. 11-26
Tenn.. Nashville—W. O. Parmer. Belle
Meade Farm, finishing fourth and fifth floors
of 6-story addition to Clarkston Hotel, 315-17
ft., \$145.000; Dougherty, Wallace & Clemmons, Archts., Cotton States Bldg.; Cowan
Lumber & Construction Co., Contr., 312
Church St.

Church St. 11-26
Tex., Laredo—Laredo Hotel Co., care John M. Marriott, Archt., 503 Frost Natl. Bank Bidg., San Antonio, let contract on cost plus basis to P. L. Ragsdale, 217 Montrose St., to remodel interior and redecorate Robert E. Lee Hotel; partitions, tile floors, roofing, metal work, lathing, plastering, plumbing, heating and refrigerator, elevator repairs; \$40,000.

Miscellaneous

D. C., Washington—Washington Investment Co., McLachlen Bldg., erect 3 brick market bldgs., 404-08 12th St., S. W.; 2 stories, struc. steel, conc., slag roof, skylight, electlevator, gas heat; Arthur B. Heaton, Archt., 1211 Connecticut Ave.; C. Wohlgemuth, Jr., Contr., 1800 E St., N. W.

Fla., Coral Gables, Miami—Additional subcontracts let on \$500,000 Tropical Park project for Gables Racing Assn.: Mess Halls and Kitchens—Lumber and millwork, Bailey's Lumber Yard, 1616 N. W. 29th St.; brick and tile, I. E. Schilling Co., 125 N. E. Sixth St.; struc. steel, Peninsular Iron & Steel Co., 21st St.; painting, Cowart & Avriett, 1229 N. E. Second Ave.; elec. work, Geo. LaVigne & Co., Calumet Bldg.; plumbing, Murkowitz & Resnick, Inc., 839 W. Flagler St.; roofing and sheet metal, McCrea-Miller Co., 632 S. W. Eighth St. Toilets for Barns—Lumber and millwork, Bailey's Lumber Yards; cement, sand and gravel, Consolidated Supply Co.; fill, W. T. Price, Inc., 3200 S. W. Seventh Ave.; roofing and sheet metal, McCrea-Miller Co.; painting, Cowart & Avriett; plumbing, D. V. Tidwell; Paist & Stewart, Archts., Ingraham Bldg.; M. H. Connell, Mech. Engr., 3675 S. W. 25th Terrace; Belsham, Jorgenson & Schrefter, Civil Engrs., Calumet Bldg.; Biscayne Engineering Co., Track Engrs., 218 N. E. Second Ave.; George W. Langford Co., Contrs., McAllister Hotel Bldg.

Contrs., McAllister Hotel Bldg. 12-3

Fla., Hialeah—Chas. B. Colby & Son. Day
St., Coconut Grove, have contract for 2 betting booths at racing track for Miami Jockey
Club; contract at \$11,413 to East Coast
Foundry & Boiler Co., 380 S. W. Third St.,
Miami, for pari-mutuel straight, place and
show board, and at \$3777 for straight board;
contract at \$2684 to Fred Howland, 1600
N. W. 14th St., Miami, for 2 plater shops;
Smith & Riddle, Inc., Supvg. Engrs., 210
Royal Palm Way; L. W. Geisler, Archt., 19
Via Parigi, both Palm Beach. 11-5

Schools

La., New Orleans—Jos. Schnetzer, 5922
Chestnut St., has contract for photographs
of \$400,000 Xavier College for Sisters of
Blessed Sacrament; elevator, Otis Elevator
Co., \$52 Carondelet St.; Wogan & Bernard,
Archts., Canal Bank Bldg.; Henry & Hooper,
Masonic Temple Bldg., and F. H. Chisholm,
622 S. Peters St., Conslt. Engrs.; Geo. J.
Glover Co., Inc., Contr., Whitney Bldg. 12-3

Mo., Blue Eye-Charles Davis, Reeds Spring, has contract for \$17,000 school.

Mo., Kansas City—St. Agnes Academy, Scarritt and Hardesty Aves., started work on \$25,000 to \$30,000 bldg.; auditorium-gymnasium seat 525, stage, lockers and showers; connected to principal bldg., by cloister; Madrie & Bihr, Archts., Natl. Fidelity Life Bldg.

dorie & Bihr, Archts., Natl. Fidelity Life Bldg.

Tenn.. Cookeville—Following sub-contracts let on \$100.000 Central High School, on which Foster & Creighton Co., Contrs., Fourth & First Bldg., Nashville, are ready to start structural work: Mastic floors, Albert Grauer & Co., 1408 17th St., Detroit, Mich.; elec. work, John Howard; millwork, H. C. Carr, both Cookeville; tile, terrazzo and slate, H. E. Parmer Co., 801 Fifth Ave., N.; common brick requirements, W. G. Bush & Co., 174 Third Ave., N.; plumbing and heating, East Side Plumbing Co., 66 Bridge Ave; rein. steel, Wilson-Wesner-Wilkinson Co., 108 Fatherland St.; misc. iron, Kerrigan Ornamental Iron Works, Inc., 327 Fourth Ave., S.; roof and sheet metal. Leon Taylor Roofing Co., 210 Second Ave., S.; screens and weatherstripping. Southern Screen Weatherstrip Co., 427 Commerce St., all Nashville; cast stone, White Stone Co., Inc., 1468 McLemore St.; cement, Marquette Cement Manufacturing Co., U. & P. Bk. Bldg., both Memphis. Tenn.; steel door bucks and trim, Richmond Fireproof Door Co., Richmond, Ind.; struc. steel, International Steel Co., Evansville, Ind.; folding partitions. Horn Folding Partition Co., Fort Dodge, Iowa; Hardman-Saunders wood columns, O'Neill Manufacturing Co., Rome, Ga.; steel windows, David Lupton's Sons Co., 2263 E. Allegheny Ave., Philadelphia, Pa.; metal toilet partitions, D. A. Ebinger Manufacturing Co., Columbus, O.; ash hoist, Ernst Ash Hoist Co., Buffalo, N. Y.; bronze work, Newman Manufacturing Co., Cleneay St. and N. & W. Ry., Cincinnati. O.; Marr & Holman, Archts., 701 Stahlman Bldg. Nashville.

Tenn., Knoxville—Knox County School Bd. let contract to V. L. Nicholson, 102 W. Clinch Ave., for consolidated school for Winkle and Stock Creek communities; heating, McGinn & Reiche, 411 W. Magnolia Ave.

Reiche, 411 W. Magnolia Ave.

Tenn., Nashville — Wilson-Weesner-Wilkerson Co., 108 Fatherland St., reported, have contract for 118 tons conc. bars for 2 bldgs., A. & I. College; Marr & Holman, Archts. Stahlman Bldg., Nashville; Angle-Blackford Co., Contr., 1314 Nash. Trust Bldg., Nashville, and Greensboro, N. C. 11-19

Tex., Dallas—City Bd. of Education let contract at \$33,969 to Stearman & Son Construction Bldg., for addition to Maple Lawn Elementary School; plumbing, Dallas Plumbing Co., Inc., 2425 McKinney St., at \$1739, 4 rooms auditorium and lunch room; De-Witt & Washburn, Archts., Kirby Bldg. 12-3

Tex., San Antonio—City Bd. of Education let contract to E. A. Huebner, Moore Bldg., for \$10,000 physical education bldg., Edgar Allen Poe Junior School; plumbing and heating, West & Gutzeit, 425 Main St., at \$5276; elec. work, Crowther Electric Co., 3016 Broadway, at \$473; equipment, Godari Construction and Equipment Co., Bldrs. Exch. Bldg., at \$2361; Giles & Beckman, Archts., Moore Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg.

Va., Virginia Beach—Town Council let contract at \$16,400 to H. M. Capps, Norfolk, for auditorium for Virginia Beach School; Rudolph, Cooke & Van Leeuwen, Archts., Arcade Bldg., Norfolk.

Stores

D. C., Washington—Thompson Furniture Co., 2006 Rhode Island Ave., N. E., erect brick and conc. store, same address: 2 stories, slag roof, steam heat; J. G. Herbert, Archt., 2211 Naylor Rd., S. E.; Bahen & Wright, Contrs., 916 R. I. Ave., N. E.

Wright, Contrs., 916 R. I. Ave., N. E.
Ga., Atlanta—Virgil Collier, 205 Peachtree Circle, and Roy Collier, 3850 Peachtree Rd., N. W., and Miss Lula Collier: store bldg., Peachtree and Ellis Sts.; Barge-Thompson Co., Contr., 136 Ellis St., N. E., advises probably ready for sub-bids about Dec. 10; \$200.000 or more, 104x90 ft.; Pringle & Smith, Archts., Norris Bldg.

La., Alexandria—Steve Lymberis let contract to Tudor & Ratcliff for 1- and 2-story bldg., Second and Washington Sts., for restaurant, stores and Southern Bell Telephone & Telegraph Co.; \$10,000, pressed brick, glass front, tile floors.

Md., Baltimore—Wm. J. T. French, 3-Hillsdale Road, erect \$10,000 store-fre bldg., 4715 Liberty Heights Ave.; brick, stories, 24x52 ft.; plans and constr. owner.

stories, 24x52 ft.; plans and constr. by owner.

Md.. Baltimore — Additional sub-contracts let on 6-story and basement addition to Hutzler Bros.' department store on which struc steel erection has started: Zenithern floors, Allied Engineering Sales, Inc., 11 E. Pleasant St.; painting, H. Chambers Co., 1026 N. Charles St.; fire doors, Wm. E. Gambrill & Co., 213 East St.; misc. iron, Maryland Steel Products Co., Standard Oil Bidg.; roofing and sheet metal, Wm. F. Zeller Co., Inc., 613 W. Cross St., all Baltimore; tile and terrazzo, Columbia Mosaic & Tile Co., 114 C St., N. W., Washington; casement windows, Henry Hope & Sons, 101 Park Ave., New York; steel sash, Richey, Browne & Donald, Maspeth. N. Y.; waterproofing. Western Waterproofing Co., Liberty Trust Bidg., Philadelphia, Pa.; Office of Joseph Evans Sperry, Archt., Calvert Bidg., Philadelphia, Pa.; Office of Joseph Evans Sperry, Archt., Calvert Bidg.; Consolidated Engineering Co., Inc., Contr., St. Paul and Franklin Sts., all Baltimore. 10-29 Miss., Jackson—Batte Furniture Co., John C. Batte N. Farrish St. let contract on cost

solidated Engineering Co., Inc., Contr., St., Paul and Franklin Sts., all Baltimore. 10-29
Miss., Jackson—Batte Furniture Co., John C. Batte. N. Farrish St., let contract on cost plus basis to Currie & Corley, Raleigh, to remodel second floor lately noted damaged by fire: replastering, roofing, plumbing, wiring; Hull & Malvaney, Archts., Merchants Bank Bldg., Jackson.

Tenn., Memphis—Julius Goodman, Bank of Comm. Bldg., remodel 5-story, basement and sub-basement store bldg., 60-64 S. Main St., lately noted damaged by fire; new fronts and walls; fireproof. automatic sprinkler system, wiring; \$50.000; E. L. Harrison, Archt., Edelity Bank Bldg.; bids in.

Va., Norfolk—Geo. F. Wilkinson, Agt., Arcade Bldg., let contract to L. McCloud, 1701 Colby St., for 3 stores, York St. near Granby St.

Warehouses

Ga., Atlanta—Milton Bradley Co., 384
Forest Ave., N. E., let contract to F. E.
Varner Construction Co., Standard Bldg., for
1-story addition to warehouse; brick, conc.,
limestone, struc. steel, 50x120 ft., steel sash,
comp. roof, plate glass; changes to front;
1 elec. elevator; J. M. Russell, Archt., Standard Bldg.

Kansas City, Mo., has inaugurated a \$40,000,000 municipal improvement program to be financed under a Ten-Year Plan by bonds. H. F. McElroy, city manager, announces that 50 to 100 men will be employed daily until work is provided for about 4000 men on a halftime basis

WANT **SECTION**

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies

Under this heading are reported requests for data, prices and litarium and information on machinery, supplies and miscellan ment used in building and any many chinery, supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any many control of the supplies and miscellan ment used in building and any chinery, supplies and miscellanment used in building and con-eous materials of a wide variety. struction projects of every kind. supplies and construction work.

Building Materials

Bids Asked

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Roller Mill.—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on used steel mill for paint grinding.

Crane.—S. & W. Construction Co., Shrine Bldg., Memphis, Tenn.—Wants prices and data on used crane, approx. 1 cu. yd. capacity, equipped with clamshell and boom; should be gasoline or Diesel engine operated; will consider any crane of this character.

Creamery Equipment and Supplies.—Lambert Chemical Co., 4215 Troost Ave., Kansas City, Mo.—Wants catalogs on supplies, material and equipment used in creameries, dairies and ice cream plants.

Engine Generator.—Harlan & Harlan Machine Works, 308-10 Broadway, Kansas City, Mo.—Wants prices and data on 125 to 175-kw., 125-250-volt, three wire, d. c. generator, direct connected to 4-valve engine.

Hoist (Electric).—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on ½ or 1-ton, 220-volt, used electric hoist.

Ice Cream Machinery.—Whippoor Will Dairy, Inc., P. H. Jacobson, Sec., Morganton, N. C.—Wants ice cream mchy. for small output; prefer Taylor new or second hand machine.

Metal-Working Machinery.—Wm. Macdonald, 2035 N. W. 34th St., Miami, Fla.—Wants prices and data on used sheet metal machinery for asphalt drum manufacture.

Oil of Sassafras Manufacturing Machinery.

—C. R. Sanderson & Son, Cartersville, Va.—
Wants prices and data on used machinery
for manufacturing oil of sassafras.

Guyan Machine Shops, Logan, W. Va.—Wants prices and data on following:

(1) Boller—ghout 15 h. p., horizontal, Scotch marine or locomotive type

(2) Conveyor—portable belt about 20 in. x 30 ft., for handling coal.

Lumber Mill Hog.—Machinery Record, Hackley Morrison (Mchy. Dealer), Mutual Bldg., Richmond, Va.—Wants prices and data at once on Mitts & Merrill hog No. 7 or 8.

Miscellaneous

Dies.—Columbia Building Co., Box 367, Roanoke, Va.—Wants prices and data from manufacturers of dies for making small castings or forgings.

Jelly Glasses.—Mrs. Thos. Sexton, 15 Anthony Rd., Ocala, Fla.—Wants prices and data on jelly glasses or containers for orange marmalade.

orange marmalade.

Nuts and Bolts.—Mendenhall Lumber & Millwork Co., Greensboro, N. C.—Wants price lists and discounts on nuts and bolts, with lowest wholesale jobbing discounts.

Sprinkler Systems.—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on sprinkler system, S. H.; also, wants to represent manufacturer of sprinkler systems.

Steel Furniture E. M. Stensbrough Fort

Steel Furniture.—F. M. Stansbrough, Fort Ogden, Fla.—Wants prices and data from manufacturers of steel furniture, including chairs, settees and porch seats.

Building Material and Equipment

Hygema & Allyn, Inc., Contrs., Sebring, Fla., want to communicate with wholesale firm or manufacturer of heat registers.

firm or manufacturer of heat registers.

Howard W. Cutler, Archt., 1108 16th St.,
N. W., wants prices on following for kindergarten, Bethesda, Md.:
Flooring—linoleum, tile
Roofing—built-up.
National Contracting Co., 2114 Foshay
Tower, Minneapolis, Minn., estimating on following: Foundation work for \$5,000,000 narcotic farm, Lexington, Ky., bids Dec. 14 by
Treasury Dept., Washington; superstructure

of \$1,500,000 post office and Federal bldg., Atlanta, Ga., bids Dec. 28 by Treasury; Veterans Administration Home, St. Petersburg, Fla., bids Jan. 5 by Veterans Administration. Washington; superstructure of \$1,500,000 Army and Navy General Hospital, bids Jan. 20 by Constructing Quartermaster, Hot Springs National Park, Ark.

Bids Asked

Air Compressor Unit.—U. S. Engr. Office, Navy Bldg., Washington, D. C.—Blds Dec. 15 for motor driven automatic air compres-sor unit and accessories.

Antenna Poles, etc.—Purchase Sec., Bureau of Standards, Washington, D. C.—Bids Dec. 22 for erecting 49 antenna poles and appurtenances, including steel guys, anchors, pole steps, crossarms and pole bands with pulley and guys attached, at Beltsville and Meadows, Md.

Bridges.—State of Maryland, 2 bridges. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Georgia, 11 bridges. See Construction News—Roads, Streets and Pav-

Bridges.—State of Oklahoma, 11 bridges. ee Construction News—Roads, Streets and

Bridge.—Washington, D. C. See Construction News—Bridges, Culverts and Viaducts.

Cement (Portland).—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Dec. 15 for Portland cement to Naval powder factory, Indian Head, Md.

Dredging. — Louisiana. See Construction ews—Dredging and Irrigation

Elevator.—Supvg. Archt., Treasury Dept., Washington, D. C.—Bids Dec. 28 for passenger elevator in U. S. post office, courthouse, etc.

Elevator.—Supvg. Archt., Treasury Dept., Washington, D. C.—Bids Dec. 28, for elevator plant, U. S. post office, etc., Atlanta, Ga.

Gasoline, Kerosene and Fuel Oil.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 17 for gasoline, kerosene and fuel oil, delivery Philadelphia, Pa., Parris Island, S. C., Quantico, Va., and Washington, D. C.

Glass (Window).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 16 for window glass, delivery Quantico, Va.

Hron and Steel.—Marine Corps, Q. M. Dept.. Washington, D. C.—Bids Dec. 16 for iron and steel, delivery Quantico, Va.

Lighting Fixtures.—Marine Corps, Q. M. Dept.. Washington, D. C.—Bids Dec. 16 for lighting fixtures, delivery Quantico, Va.

Monument.—South Carolina. See Construction News—Miscellaneous Construction. Pig Lead.—City of Baltimore, Md., Dept. of Public Works, Bureau of Water Supply—Bids Dec. 16 for 250,000 lbs. pig lead.

Pipe (Sewer and Water)—J. B. Pridgen, City Mgr., Charlotte, N. C.—Bids Dec. 14 for furnishing 2600 ft. storm sewer pipe, various sizes and 50,000 ft. of sanitary sewer pipe, various sizes; also for 15,000 ft. of water pipe, various sizes and appurtenances.

Railway Construction.—Lou Construction News—Railways. Louisiana.

Rivet-Sets and Riveting Hammer.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Dec. 15 for pneumatic rivet-sets and flush point riveting hammer.

Road. — Mississippi. See Co News—Roads, Streets and Paving.

Roads.—State of Oklahoma, 3 roads. See Construction News—Roads, Streets and Pav-ing.

Road Building Material.—State Highway Comsn., Room 610 Louisiana Natl. Bank Bldg., Baton Rouge, La.—Bids Dec. 29 for

following: Washed and screened gravel, 40% sand-clay gravel, reef shell, clam shell, crushed limestone, slag and sand, as required by maintenance department during January, 1932.

Roads.—State of Georgia, 26 roads. See Construction News—Roads, Streets and Pav-ing.

School Desks.—Panama Canal, Office Gen. Pur. Officer, Washington, D. C.—Bids Dec. 21 for school desks, Sch. 2707.

Sewer Construction.—J. B. Pridgen, City Mgr., Charlotte, N. C.—Bids Dec. 14 for storm sewers, sanitary sewers, cement masonry and appurtenances; work consists of laying 2600 ft. of storm sewers, various sizes, 50,000 ft. of sanitary sewers, various sizes, 54,000 ft. of water lines various sizes and appurtenances; 50 cu. yds. rein. conc. masonry, complete in place; city to furnish all pipe; all local labor to be used.

Streets.—Charlotte, N. C. See Construction ews—Roads, Streets and Paving.

Streets.—Washington, D. C.—See Construction News-Roads, Streets and Paving.

Storage Rooms.—Constructing Quartermaster, Army Medical Center, Washington, D. C.—Bids Dec. 21 for cold storage rooms in warehouse.

Trucks.—U. S. Coast Guard Headquarters, Washington, D. C.—Bids Dec. 17 for 8 White trucks, with 2 winch and reels.

Walks, Lamp Standard Foundations, etc.— Treasury Dept., Office Supvg. Archt., Washington, D. C.—Bids Dec. 21 for walks, lamp standard foundations and foundations for flag poles at U. S. Dept. of Commerce Bldg., flag poles at Washington.

Washington.

Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until dates indicated for:

Hoists—floor operated, electric, for Hampton Roads, Dec. 15

Generating Units (Turbine Driven), Condensers, Air Ejectors, etc.—and spare parts, for Philadelphia, Norfolk and Puget Sound, Dec. 22

Cement (Portland)—200 bbl. for Portsmouth; 750 bbl., Annapolis; 1000 bbl., Washington; 2500 bbl., Norfolk; 3250 bbl., Hampton Roads; 500 bbl., Charleston; 900 bbl., Pensacola, Dec. 22

Cuprousoxide—8000 lb., for Norfolk, Dec. 15

Ventilating Sets and Spares—for Weshing

Ventilating Sets and Spares—for Washington, Dec. 15
Ship Compasses — submarine type, for Portsmouth, Dec. 15
Pumping Fire Engine—1000 gal. per min., complete, with hose body, for Norfolk, Dec. 15.

Bureau of Supplies and Accounts, Navy ept., Washington, D. C.—Bids Dec. 15 for: Lathe (Engine)—selection head, motor Dept., W Lathe

Lathe (Buffer and Polishing)—motor driv-en, and equipment Grinder—universal, cutter and tool, motor

riven
Picks and Shovels
Taps, Dies, Tap Wrenches and Diestocks
Piles and Rasps Sharpening Stones
Shear—tinners' and sailmakers'
Drills (Radial)—motor driven
Chisels, Chisel Blanks
Drills—twist, carbon and high speed.

Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Jan. 5 for: Face Grinding Machine—motor driven. Brake—power press Coil Winding Machine—motor driven Shaper—heavy duty, plain, rapid traverse, metor driven

Coll Winding Machine Shaper—heavy duty, plain, rapid traverse, motor driven Drilling Machines (Radial)—motor driven Shaper—motor driven Crank Shaper—motor driven Milling Machine (Vertical)—heavy duty, motor driven Bolt Threading Machine—motor driven.

INDUSTRIAL NEWS

Industrial Service Organization

A new type of service, to facilitate the marketing of industrial products, is offered by Sheldon, Morse, Hutchins & Easton, organized by Dr. H. H. Sheldon, H. A. Morse, L. W. Hutchins and Dr. W. H. Easton, all well known in many branches of industry, engineering and science. The firm has offices at 191 West 10th street, New York, and will give special attention to economic problems arising in connection with scientific research, assisting manufacturers to determine applications and markets for products in the laboratory or development stages. It plans also to furnish manufacturers with a complete sales research, advertising and publicity service.

Biggs Boiler Representative

The Biggs Boiler Works Company, Akron, Ohio, announces the appointment of Charles H. Hodges, Baltimore, with offices at 10 W. Chase street, as representative to cover Maryland, the District of Columbia and Northern Virginia. The company fabricates and erects steel plate work of practically every kind, as well as stoves, stacks, furnaces, cold and hot blast lines, gas mains, dust catchers, gas washers, skip cars, weigh cars, hoppers, ladles, inlets, etc. It specializes in furnishing and installing welded or riveted steel pipe lines and penstocks, in connection with water supply systems for large industrial plants and municipalities.

Heads "Caterpillar" Service

L. B. Neumiller, General Parts Manager of the Caterpillar Tractor Company, Peoria, Ill., has been appointed head of "Caterpillar" Service Department, his many years in the machinery business fitting him particularly well for the new position. Lou Morgan, for 12 years with the Caterpillar Tractor Company and one of its predecessors, becomes General Parts Manager to succeed Mr. Neumiller, the latter being promoted to fill the position vacated by Col. Paul Weeks, who goes to Washington, D. C., as Washington manager of the Caterpillar Tractor Company.

Takes Over Berger Division

The Truscon Steel Company, Youngstown, Ohio, has taken over the Berger Manufacturing Company Building Products Division at Canton, Ohio, and will operate it as Berger Building Products Division of the Truscon Steel Company. Berger's present policies will be continued and its present selling organization retained. It manufactures a line of products similar to those of the Truscon Steel Company, which have been widely distributed throughout this country and in foreign countries.

Order for 247 Snow Plows

The Illinois State Highway Department recently purchased of the Western Wheeled Scraper Company, Aurora, Ill., 247 Ford and Chevrolet snow plows for use in maintaining state highways during the winter. This Western snow plow is a high speed unit with a 7-foot blade for use on Ford AA or Chevrolet trucks. It is easily detached and is designed to meet the needs of highway departments that own small trucks or desire a small, fast-moving and inexpensively operated snow plow for congested districts.

Moffatt Elevator Installations

The Moffatt Machinery Manufacturing Company, Charlotte, N. C., manufacturers of elevators, report the installation of two elevators for W. W. Hagood, Jr., in a store building in Charlotte occupied by the D. Pender Grocery Company. The firm is low bidder also on jobs at Chillicothe, Ohio, at Oteen, N. C., and Columbia, S. C.

German Patent for Sheet Rolling

The American Rolling Mill Company, Middletown, Ohio, has been granted a German patent for its continuous sheet mill development, a rolling process developed at the company's plants. Licenses for employment of the process have been granted to many other steel companies in the United States and mills built.

Trade Literature

Aluminum Alloy Finishes.—A booklet, "Specifications for Architectural Finishes Applied to Aluminum Alloy Sand Castings," has been issued by the Aluminum Company of America, Pittsburgh. Specifications cover the finishing of Alcoa 43 Alloy architectural sand castings as done by the foundries of the company, the finishes described including only those standard finishes which have shown the required permanency desired for both exterior and interior work. Methods outlined are those which have proven most economical and which have given most satisfactory results from the standpoint of production.

Tennessee River Survey.—Material obtained by Warren R. King, head of the United States geological survey in Chattanooga, aided by United States army engineers, in a 9-month study of Tennessee rivers, forms the basis of a bulletin issued by the State Department of Education, "Surface Waters of Tennessee." The publication covers 165 pages including 29 tables and 35 illustrations, with three maps showing locations of existing and proposed hydro-electric, navigation and reservoir projects with actual or tentative sites for other developments.

Farm Life.—The American Library Association, Chicago, as one of its "Reading with a Purpose" series, has published a booklet by Dr. Clarence Poe, editor of the Progressive Farmer, Raleigh, N. C. The title is "Farm Life: Problems and Opportunities." Dr. Poe points out that while efficient production and cooperative marketing are constructive factors in farm problems and opportunities, rural education and social life are equally important.

Centrifugal Pumps.—The Pennsylvania Pump & Compressor Company, Easton, Pa., has issued two bulletins, Bulletin No. 216 covering the company's OMS type of sleeve and ball-bearing multi-stage centrifugal pumps and Bulletin No. 217, devoted to the LS type of single stage pumps. Highway Safety.—Cooperating with highway safety campaigns being conducted by American Legion Posts in various sections of the country, the John Hancock Mutual Life Insurance Company, Boston, Mass., recently supplied more than 2500 such posts with over 250,000 copies of a booklet, "Control," published by the company in the interest of highway safety. The booklet is illustrated and contains much highway safety information for motorists. It may be carried on the person or in the door pocket of an automobile.

Tulsa Retail Trade Area.—The Research Department of the Tulsa Chamber of Commerce, Tulsa, Okla., J. M. Maurer, Director of Research, recently completed an Analysis of the Tulsa Retail Trade Area, in collaboration with Daniel Starch, Ph. D., consultant in commercial research, Cambridge, Mass. The publication, embracing a total of 125 pages, was prepared and issued for the Tulsa Chamber of Commerce, under the direction of William Holden, executive vice-president, and the Market Surveys Committee, of which John H. Dunkin is chairman. It is priced at \$2.00.

Reduced Cost of Electricity

A saving of 27.8 per cent on the purchase of any essential commodity or service is worthwhile, as the Texas Utility News points out. That is the percentage of réduction made in rates for residential electric service on the Texas Power & Light Company system during the past 10 years.

When one considers that in some communities in which the company purchased electric property as late as 1924, rates of 20 cents per kilowatt hour were being charged, and that its average rate today for residential service is 9.1 cents per kilowatt hour, the significance of the rate reductions becomes apparent.

During the 1921-26 period the average rate per kilowatt hour for commercial lighting service was 10.2 cents. For the year ending August, 1931, the average rate per kilowatt hour for this service was 6.9 cents, an average reduction of 32.3 per cent.

The Texas Power & Light Company explains that its purpose always has been to render dependable, 24-hour-a-day service to all its customers, at the lowest possible cost. The transmission line system of the company has enabled it to make substantial rate reductions from rate schedules charged by isolated power plants which it has replaced in many Texas communities.

Dallas, Texas, will shortly begin work on a \$2,000,000 public improvement program. Important sewer work, new school construction, paving and waterworks improvements are included.

Promoting Alabama Prosperity

Additional income for the farmers of Alabama is announced as a major objective of the Alabama Industrial Development Board, in belief that "the industrial prosperity of Alabama is largely dependent on an increase in the purchasing power of the farmer." Encouragement is particularly recommended for industries which are consumers of farm products as raw materials.

Effort also is reported for improvement of the cotton staple in the state, "to recapture the estimated loss of \$6,000,000 to \$10,000,000 which the state textile mills spend outside Alabama for cotton suitable to their specialty operations." Twenty million dollars a year, it is estimated, is spent outside the state for dairy products, and the board would have this situation improved. Livestock development through the sale of peanut fed hogs and the location of packing plants also is advocated.

Research work with the U. S. Bureau of Standards in the manufacture of xylose from cotton seed hull bran at the Swann Corporation plant in Anniston; textile starch from Alabama sweet potatoes at Auburn, and development in papermaking from Alabama pine at the University were reported. It was pointed out that every effort is being made to locate food industries in the state to take advantage of the favorable growing conditions in Alabama and to encourage diversity for the cotton farmers.

A major industrial project recommended by the board at its meeting was the improvement of the Warrior River from the coal fields of North Alabama to Mobile. The board will also continue to further the proposed opening of the Coosa-Alabama waterway, cooperating with the Mississippi Valley Association in its work on this project.

Recent mineral developments reported included gold mining operations in Tallapoosa county, barytes mining in Bibb county and production of fuller's earth in Bullock county.

It was stated that exceptional interest has been shown in the past 60 days by industries seeking locations in Alabama. Since the formation of the board in August, 1928, approximately \$52,000,000 has been invested by industries in Alabama, with added annual payrolls of \$5,000,000. Total construction investments in the past year ran to \$21,000,000.

The members of the board, who serve without pay or expense, are Governor B. M. Miller, chairman; Theodore Swann, Birmingham, vice-chairman; Thomas W. Martin, Birmingham; Herbert C. Ryding, Birmingham; Benjamin

Russell, Alexander City; J. F. McGowin, Mobile, and Seth P. Storrs, commissioner of agriculture and industries, secretary. Thad Holt is director of the Alabama Industrial Development Board with headquarters at Birmingham.

Increased Textile Employment

Columbus, Ga., textile mills for the first time in more than two years are working on full time schedules, and last week two plants began night operations. "The Bibb Mill, the Eagle & Phenix Mill, the Columbus Mfg. Co. and the Bradley Mfg. Co., are all running 55 hours a week," reports W. C. Bradley, president of several Columbus plants, and widely known as chairman of the board of directors of the Coca-Cola Company. "I am glad to say that textile skies are much brighter," added Mr. Bradley, "and I do not regard it as a mere temporary improvement. Conditions are not yet normal, but they are very much improved. An unsatisfactory feature is that we have to sell goods at such close prices, this being due to retail trade conditions and the disposition on the part of merchants to sell at very low prices to stimulate business."

Martin Shirt Factory, Martin, Tenn., has increased its working force to 104, and when the installation of new machines is completed by the first of the year, 200 persons will be on the payroll. The Tennessee Cigar Co., Martin, has doubled its production.

Pomona Mills, Inc., Greensboro, N. C., have resumed full time operation after a long period of curtailment. The company has 450 operatives engaged.

Mock-Judson-Voehringer Co., Greensboro, N. C., one of the largest knitting plants in the South, is running at a 100 per cent rate, having lost but a few days since it began operations five years ago. For this firm, this particular fall season has been one of the best.

W. E. Poovey and H. V. Bolick, Granite Falls, N. C., are erecting a hosiery mill and expect to complete installation of machinery about January 1.

May Hoisery Co., Burlington, N. C., is installing 24 hosiery machines, and is operating at about 85 per cent of capacity. Machines will be installed from time to time to bring the mills to full capacity.

Carolina Absorbent Cotton Co., Charlotte, N. C., which recently doubled the capacity of its plant, is operating with a full working force in all departments.

Re-opening of the Anchor Mills at Huntersville, N. C., giving employment to 200 persons after necessary renovation work is completed is announced by Horace Johnson, Charlotte, N. C.

\$55,000,000 CONSTRUCTION OUTLAY

National Electric Power Co. Expends Large Sum in Past Two Years

Construction expenditures of subsidiaries of the National Electric Power Company, New York, during the past two years amounted to \$55,800,000, according to Harry Reid, president, in a letter to stockholders. Mr. Reid points out that these outlays are already being reflected in earnings of the company's operating subsidiaries. Expenditures amounted to \$35,700,000 for construction in 1930, and to \$20,100,000 in 1931. Largely as a result of this construction program, the capacity of power plants in the company's system, according to the letter, has increased from 497,000 kilowatts as of December 31, 1929, to 774,000 kilowatts at the present time, a gain of 55 per cent. "The company has taken advantage of low construction costs to built ahead of immediate requirements," says Mr. Reid, "and the benefits of this program are already becoming apparent. Increased sales can now be made without additional invest-

The total output of the company in the first two weeks of November was 78.861.853 kilowatt hours, a gain of 16.2 per cent over the corresponding period last year after making adjustments for properties acquired within the year. Excluding recent large power contracts, the gain over last year amounts to 2.1 per cent. As of December 31, 1930, subsidiaries of the National Electric Power Company, which is controlled by the Middle West Utilities Company, Chicago, operated in Maine, New Hampshire, Vermont, New York, New Jersey, Pennsylvania, Ohio, Michigan, Maryland, Delaware, Virginia, West Virginia, North Carolina. Georgia and Florida. The Seaboard Public Service Company, Alexandria, Va., is the holding organization for Southern properties, which include the Georgia Power and Light Company, Florida West Coast Ice Company, Florida Power Corporation and subsidiaries, Tide Water Power Company, Virginia Public Service Company and subsidiaries, and the Eastern Shore Public Service Company and subsidi-

Charter Textile Mills

High Point, N. C.—Incorporated with an authorized capital stock of \$50,000, Sentinel Mills, Inc., plan to manufacture rayon, cotton and silk yarns and fabrics here. Incorporators include D. W. Phillips, High Point; R. L. Phillips, Rockingham, N. C., and G. L. Fletcher, McColl, S. C.

\$100,000,000 Natural Gas Pipeline

Texas Panhandle to Chicago

clude: The Texas Co., Standard Oil Co.

of New Jersey, Cities Service Co., Insull

interests, Columbian Carbon Co. and the

Southwestern Development Co. The first

joint of pipe was laid August 22, 1930,

and the last on August 5, 1931; during

this period 10 compressor stations, con-

taining 57 1250-horsepower compressors.

were also constructed. Near the field

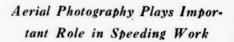
compressor station at Fritch, Texas, a

THE \$100,000,000 natural gas pipe line of the Natural Gas Corporation of America, extending nearly 1000 miles from the gas reserves of the Texas Panhandle to the Chicago metropolitan area, and said to be the largest ever built, traverses five states and crosses 18 rivers. Construction of the gigantic project was completed in less than 12 months.

The Continental Construction Corporation was formed in the summer of 1930 to build the line, Henry L. Doherty & Co., New York, having been engaged to organize and direct the activities of the company. The project participants in-

gasoline plant was built to treat the gas before it starts through the line.

The 10 main line compressor stations are approximately 95 miles apart along the line. Delivery into the Chicago area is accomplished by two 24-inch lines built and owned by the Chicago District Pipeline Co. These originate at Joliet and connect with the Peoples Gas Light & Coke Company gas distribution system at



a number of different points.

Routing of the line was accomplished by aerial photography, mosaic maps of the territory traversed having been made. This method proved of great value in overcoming construction difficulties and in selecting suitable river crossings. The rivers included the Canadian, North Canadian, Cimarron, Arkansas, Solomon, Little Blue, Big Blue, Missouri, Nishnabothna, Grand, Clanton, Des Moines, Skunk, Iowa, Cedar, Mississippi and Fox.

A large force of men was employed to secure rights-of-way and compressor station sites, and in no case was construction held up for right-of-way.

Approximately 25 engineers were constantly employed to test and inspect pipe, compressors, engines, valves, couplings, fabricated headers and special equip-



Ditcher at Work



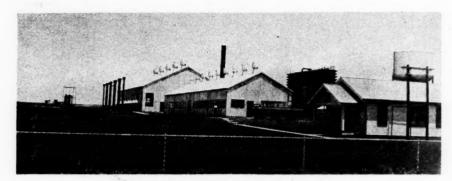
Coating 24-Inch Pipe



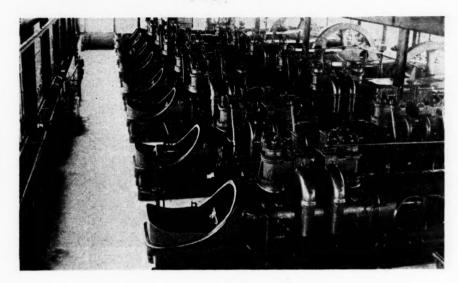
Canadian River, Showing Six Completed 12-Inch Lines
Before Backfilling



Installation of a Header, Preliminary to Making a Multiple
Line River Crossing



A Compressor Station on 24-Inch Main Line



Power End of Main Units

ment. Material used was rigidly tested at the mills to pressures of 900 to 1800 pounds per square inch. Frequent specimens selected at random were tested to destruction to determine ultimate strength and factors of safety that might reasonably be expected from the "mill run" of products supplied. In the field, rigid inspection and testing of materials was employed to insure proper assembly.

Seamless pipe for the main line was manufactured by the National Tube Co., Pittsburgh, Pa., while the A. O. Smith Corporation, Milwaukee, Wis., supplied welded pipe. Main line was laid with a minimum coverage of 36 inches of earth. The need for field bending of the pipe to make it conform to surface irregularities was greatly reduced by grading and excavating. The pipe was joined by a combination of welds and couplings, Dresser couplings, made by S. R. Dresser Manufacturing Co., Bradford, Pa., being used at intervals of 80 to 120 feet. Both electric and oxy-acetylene welding processes were employed. All pipe was thoroughly protected against corrosion, a prime coat having been applied at the mills and followed in the field by a second prime coat and a coat of hot pipeline enamel. Where right-of-way was corrosive or prone to cause high soil stress

a wrapper of felt was applied over the regular coatings.

Multiple River Crossing Lines to Insure Continuity of Service

Where available, government records covering a period of 50 years were studied in searching for suitable river crossings, and high water, shifting channels, flood areas and other factors were carefully analyzed. River approaches were constructed of parallel 18-inch lines, manifolded with a valved header into the 24-inch main line. Stream channels were crossed with six 12-inch or ten 10-inch multiple lines, depending on channel conditions. These lines were dredged

below stream bed, thoroughly anchored and manifolded with valved headers into the 18-inch approach line.

The first compressor station, at Fritch in Hutchinson County, Texas, is equipped with twelve 1250-horsepower Worthington gas engine driven compressors, and is said to be the world's largest gas compressor station. It is known as the gathering field station and is the initial booster station on the main line. The remaining nine stations, each equipped with five 1250-horsepower units, manufactured by the Worthington Pump & Machinery Corporation, New York, are located near Gray, Okla.: near Bloom, Heizer and Glasco, Kan.; Beatrice, Neb.; and Hastings, Truro and Harper, Iowa, and near Geneseo, Ill. The compressor equipment contract, comprising 400 carloads, is said to be the largest of its kind ever placed with one manufacturer.

Private Telephone System a Feature

A four-wire telephone system was constructed from Chicago to Amarillo to serve as an operating aid and to insure continuity of service. Wires are on com-



Stringing 24-Inch Pipe

pany-owned poles, located on private rights-of-way, for a distance of approximately 700 miles, while leased pin space was secured for the remaining distance. Two physical circuits are provided and one phantom talking circuit, making intercommunication possible between all field points and compressor stations, and providing long distance trunks for direct communication, between Chicago and Amarillo. Facilities are so arranged that pressure dispatchers can control movement of gas and operation of wells, and



Acetylene Welders at Work on the 24-Inch Pipe Line

maintain hourly service with each compressor station, direct from the Chicago office.

The dry gasoline absorption plant at Fritch is of the latest improved type, equipped with absorbers, stabilizers, fractionators and refrigeration facilities, and as now constructed will handle 200,000,000 cubic feet of gas daily, and with the addition of absorbers and other auxiliary equipment, on completion of the second proposed main line, will handle 400,000,000 cubic feet daily.

While two 24-inch lines are contemplated, only one 24-inch main line has been laid, the time of building the second to depend on the rate at which the load can be connected and markets expanded. The single line has a capacity approaching 200,000,000 cubic feet daily, while the double line will deliver approximately 400,000,000 cubic feet daily, depending on the pressures carried.

Sponsors of the project own approxi-



Northwest Crane Excavating for Line

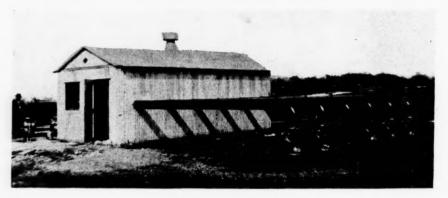
mately 300,000 acres of well-blocked gas leases in the sweet gas area of the Texas Panhandle. Gas reserves owned and controlled are estimated to meet requirements of a double line for many years.

To serve the area north of Chicago there is under construction a combination of 20 and 18-inch extensions into the Milwaukee area. This branch line will take off from the main line at No. 10 Station near Geneseo, Ill. In addition to Milwaukee, this extension will make gas available for the cities of Rock Falls, Dixon, Oregon, Rockford, Sycamore, and Belvidere in north-central Illinois.

The following firms received contracts



Pipe Machines in Operation



A Main Line Meter Setting

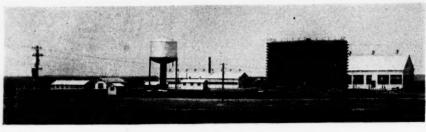
in connection with the main lines: General—Bechtel-Kaiser Co., Ltd., Oakland, Calif.; Sheehan Pipe Line Construction Co., Tulsa, Okla.; Ford, Bacon & Davis, Inc., New York City; Smith Bros., Inc., Dallas; Henry L. Lemons, Inc., Tulsa; Oklahoma Contracting Co., Dallas; hauling—Dunn Bros., Fort Worth; Tibbets & Tibbets, Olathe, Kans.; Henry L. Lemons, Inc., Oklahoma Contracting Co., and Parkhill Truck Co.; welding—Brown Bros. Welding Co., San Francisco; Welding Engineering Co., Tulsa.

The Missouri River crossing was awarded to Smith Brothers, Inc., Dallas, and the Mississippi River crossing to the Pacific Bridge Co., Portland, Oregon.

Contracts for compressor stations were awarded the following: Numbers 1, 5 and 6, Geo. H. Seidhoff, Wichita, Kans.; Numbers 2, 3, 4, 7 and 8, Sterns-Rodgers Manufacturing Co., Denver, Colo.; No. 9, Lanning Construction Co., Newton, Iowa; No. 10, Priester Construction Co., Davenport, Iowa. Housing facilities at compressor stations were awarded as follows: No. 1, Peake & Landry Construction Co., Pampa, Texas; Numbers 2, 3 and 6, W. W. Hill, Borger, Texas; Numbers 4, 5, 7 and 8, Geo. D. Gehring, Bartlesville, Okla.; No. 9, Lanning Construction Co.; No. 10, Randall Construction Co., Davenport, Iowa.

Telephone line contracts were let as follows: Gathering system to Henningson Engineering Co., Omaha, Neb.; Fritch, Texas, to Beaver County station, Beaver County station to Kansas-Nebraska state line and Kansas-Nebraska state line to Beatrice, Neb., all to Dwight Chapin, Jr., Wichita, Kans.; Beatrice to Chicago, Chicago, Burlington & Quincy Railroad Co., Chicago, Ill.; compressor station extensions Numbers 7 to 10, Henningson Engineering Co.

Firms supplying material and equipment, other than that already mentioned, include: The Crane Co., Chicago; Merco Nordstrom Valve Co., San Francisco; Walworth Co., Boston, Mass., through Chicago office; Wailes, Dove-Hermiston Corp., New York City; Cooper-Bessemer Co., Mt. Vernon, Ohio, and the Graybar Electric Co., New York, through Chicago office.



Rear View of One of the Compressor Stations



Line

Completion of the Continental Construction Corporation line by which Texas gas is brought almost a thousand miles to Chicago, is a real achievement for the industry. The entire system, comprising 1250 miles of pipe, is capable of delivering approximately 175,000,000 cubic feet daily and will serve industrial and domestic users in numerous towns and cities, in six different states.

Many factors entered into the accomplishment of such a tremendous undertaking. One of the most important of these was the availability of pipe adequate in diameter and strength, without excessive weight.

In pipe-line projects of magnitude, engineers and field men rely on the uniformly satisfactory working qualities, the unfailing strength and general durability of NATIONAL Pipe, established by impressive records from every important field. Such records account for a large portion of the Continental Line being composed of NATIONAL—

America's Preferred Line Pipe

NATIONAL TUBE COMPANY • Pittsburgh, Pa.
Subsidiary of United States Steel Corporation



NATIONAL PIPE

FINANCIAL NEWS

Bond Issues Proposed

Ala., Piedmont—City, Geo. P. Haslam, Mayor, opens bids Dec. 15 for \$20,000, 6% refunding bonds.

Ark., Clarksville—City considering \$50,000 to \$60,000 paving bonds.

Ark., Little Rock—State Debt Bd. withdrew \$2,864,500 of issues advertised for Dec. 11-19

Ar., Little Rock—State Pension Note Bd. deferred until February calling for bids for \$1,750,000 bonds authorized by Legislature for Confederate pensions.

Ga., Macon—Citizens' Bond Committee and City Council definitely decided not to at-tempt \$1,000,000 bond election at this time. 12-3

La., Lafayette—City, Robert L. Mouton, Mayor, voted \$125,000 refunding bonds. 11-5

Mo., Springfield—City votes Dec. 23 on \$200,000 sewer bonds.

N. C., Charlotte—City, Chas. E. Lambeth, Mayor, opens bids Dec. 14 for \$300,000 bonds: \$30,000, water; \$50,000, sewer; \$190,000, street; \$20,000, extending public streets and acquiring rights-of-way.

s. C., Spartanburg—Metropolitan Sewerage Comsn., Thomas H. Daniel, Chmn., advises no petition filed for election on \$70,000 Ben Avon section water and sewerage bonds, merely informal discussion of sub-district.

Tenn., Memphis—City, D. C. Miller, Clk., reported, probably offer \$270,000, not to exceed 434% at par. street improvement assessment bonds at private sale until Dec. 1.

Tenn., Shelbyville—City voted \$40,000 $5\,\%$ refunding bonds.

Tex., Amarillo—City, W. J. Durham, City Mgr., rejected bids for \$846,000, 4\% funding and refunding bonds. 12-3
Tex., El Paso—El Paso County voted \$295,000 road bonds; Comn. Court to meet Dec. 14 to decide on date of sale. 11-5

4 to decide on date of sale.

Tex., Houston—National Bank of Comerce purchaser of \$1,000,000 block of \$2.000,000 coupon road bonds, did not exercise ts option to purchase remaining \$1,000,000, 11-26

Tex., Perryton—Ochiltree County votes Dec. 26 for \$400,000 road bonds. 12-3

Bond Issues Sold

Ala., Mobile—Mobile County Bd. of Revenue & Road Commrs. E. C. Doody, Clk., sold \$400,000, \$500 and \$\$1000 denom. 5% road bonds to Merchants Securities Corp.. Mobile, at .95 and accrued interest. 11-5

Ark., DeWitt—Arkansas County sold \$55,000 court house bonds to N. W. Elkins & Co., Little Rock.

Ga., Dalton—Whitfield County sold \$50,000 road bonds to First National Bank, Dalton, representing Trust Co. of Georgia, Atlanta, at \$51,820.

Miss., Leland—City, reported, sold \$15,000 5½% water and light plant bonds to Saunders & Thomas, Inc., Memphis, Tenn.

ders & Thomas, Inc.. Memphis, Tenn.

Mo.. Springfield—City, reported, sold \$200,000, 4½% sewer bonds to Alexander, MacArthur & Co., Kansas City, at 98.50. 12-3

Tenn., Nashville—State, Hill McAlister,
State Treas., sold \$5,000,000 refunding notes
to syndicate composed of Chemical Bank &
Trust Co., Chase National Bank, National
City Bank, all New York, and American
National Co., Nashville. 12-3

Tex. Savoy.—Savoy Independent School

Tex., Savoy—Savoy Independent School Dist. recently sold \$16,000 5% bonds to State Trust & Savings Bank, Dallas.

Tex., Waco—McLennan County, R. B. Stanford, County Judge, reported, sold \$110,000 road bonds to First National Bank, Waco.

11-19

New Financial Corporations

Md., Baltimore—George G. Shriver & Co., Inc., Continental Bldg., investment banking firm, organized by George G. Shriver, Benjamin Whitley and Peter T. Coleman, all formerly with Hambleton & Co.

N. C., Brevard—Transylvania Trust Co., organized with H. B. Kelly, Pres.; M. B. McDaniel, Cashier.

W. Va., Huntington-Valley Investment

Co., 908 Union Bank Bldg., chartered; John E. Jenkins, Union Bank Bldg.

Central Union Bank of South Carolina, Rock Hill, S. C., established branch at York, S. C.

Farmers State Bank, R. H. Maddox, Cashier, Conway, Ark., plans reorganizing.

First Bank & Trust Co., Macon, Mo., L. A. Miller, Pres., acquired Security Trust Co., Macon.

First National Bank, A. Dugan, Pres., West Point, Miss., and First Savings Bank, T. M. Moseley, Pres., West Point, plan

First National Bank, J. N. Edens, Pres., Corsicana, Tex., acquired First National Bank, C. H. Delafoose, Pres., Emhouse, Tex. National Bank of Claremore, Claremore, Okla., surrendered charter and became state bank; officers include George D. Davis, Pres.; G. O. Bayless, Cashier.

Financial Notes

Electric Railway Earnings

A statement issued by the American Electric Railway Association, New York, showing results of operations of 116 electric railway companies, indicates operating revenue for September, 1931, of \$27,088,737, as comwith \$31,410,873 for September, 1930. Operating expenses were \$21,552,138, as against \$24,180,565, leaving a net revenue of \$5,536,599, as compared with \$7,230,308. For nine months of 1931, operating revenue was \$266,493,323, as compared with \$303,198,511 for the similar period in 1930. Operating expenses for the nine months in 1931 amounted to \$207,624,428, as compared with \$230.497.997, and net revenue to \$58.868.895, as compared with \$72,700,514. For 12 months ending September 30, 1931, operating revenue amounted to \$365,781,615, as against \$414,795,-041; operating expenses, \$281,614,053, as against \$312,114,537, and net revenue to \$84,-167,562, as against \$102,680,504.

Texas Financial Institutions

A bulletin of 57 pages, entitled "Trends of Development of Texas Financial Institu-tions," prepared by R. V. Shirley and Ber-vard Nichols, has been issued by the Bureau of Business Research of the University of Texas, Austin. According to a preface by A. B. Cox, director of the bureau, this study is the first of a series on financial institu-tions and financing in Texas, and its aims are "to reveal the development of our financial institutions by a survey of the essential factors of operation, and second, to serve as an introduction on the subject of money markets and financing in Texas." More detailed studies are expected to be made on the basis of material to which brief mention has been made in this initial bulletin.

Engineers Public Service Report

Gross earnings of the Engineers Public Service Company, New York, and constituent companies, for October, 1931, amounted to \$4,197,366, as compared with \$4,567,140 for October, 1930. Net operating revenue was \$1,819,198, as against \$1,873,545. Gross earnings for 12 months ended October 31, 1931, amounted to \$51,828,892, as compared with \$52,945,391, and net operating revenue to \$22,634,979, as compared with \$22,592,821, the latter showing an increase of \$42,158.

National Power and Light

The September 30, 1931, consolidated financial statement of income of the National Power & Light Company, New York, shows a balance applicable to interest of \$12,388,-430. This amount is equivalent to more than nine times the total interest on the company's gold debentures and other interest aggregating \$1.357.895. A balance of \$11.-030,535, after the payment of interest, was equivalent to more than six times the dividends on the company's \$6 preferred stock. Balance applicable to common stock was equal to \$1.71 a share on the common stock outstanding September 30, 1931, as compared to \$2.21 a share for 12 months ended September 30, 1930, on the number of shares outstanding at that date. The September 30, 1931, balance sheet shows total current assets of \$19,017,626 and total current liabilities of \$879.541. Surplus as of September 30, 1931, was \$10,073,917, as compared with a surplus of \$6,357,634 September 30, 1930.

Standard Gas and Electric

For the 12 months ended September 30, 1931, consolidated earnings of the Standard Gas and Electric Company, Chicago, and subsidiaries show a balance of \$10,251,104 af-ter all charges, including retirement reserve and preferred dividends, compared with a balance of \$11.148.594 for the 12 months ended June 30, 1931. The September balance is equivalent to \$4.74 a share on the 2,162,-607 shares of common stock outstanding September 30, and compares with \$5.15 a share on the same number of shares outstanding June 30. Gross earnings for the 12 months ended September 30, 1931, amounted to \$88,-610,280 as compared with \$92,211 for 12 months ended June 30, 1931, and are earnings were \$74,729,214, as compared with \$74,-

\$5,000,000 Tennessee Notes

Nashville, Tenn.-Renewal notes in the amount of \$5,000,000 have been sold by the State Funding Board to financial institutions in New York, Memphis, Nashville, Knoxville and Chattanooga, represented by R. A. Shillinglaw of this city. The notes, to be for six months, will bear an interest rate of 6 per cent and will be issued in denominations of \$50,000, \$25,000 and \$10,000. The purchase price was par.

\$1,130,000 Drainage Bonds

Birmingham, Ala.-The sale of \$1,130,-000 storm drainage bonds for January 1 delivery has been authorized by the City Commission and bids for the purchase of the obligations will be opened December 11. Estimates will be received at interest rates of from 41/2 to 5 per cent and the bonds sold at the lowest rate that will yield a price of par or par and premium. According to City Comptroller C. E. Armstrong, this sale will leave \$870,000 of an issue of \$3,000,000 drainage bonds unsold.

We Release to Business Men

—this story showing how life insurance guaranteed and discharged payment of preferred stock and enhanced credit of a corporation

WHEN the Lord Baltimore Hotel in Baltimore, Maryland, was financed in 1927, Harry Busick, hotel man of experience, was selected as President and Manager.

First mortgage bonds of \$3,200,000 were issued against the property itself. 7% cumulative first preferred stock amounting to \$1,150,000 was sold to the public at par, and in addition 20,000 shares of common stock were issued without par.

To safeguard the hotel company against the possibility of losing Harry Busick's expert direction by death, the bankers who financed this corporation plan required that \$1,150,000 Life Insurance be issued on Harry Busick's life as the first requisite, the proceeds of the insurance in the event of his death to be deposited with the Union Trust Company of Baltimore, Trustee, for the purpose of retiring the preferred stock.

With others interested in the management, Mr. Busick invested his personal funds in the common stock on which there was no quoted market value.

Harry Busick's accidental death two and one-half years later demonstrated the wisdom of this arrangement. The first preferred stock was retired with the Life Insurance proceeds by the Trustee, and the common stock immediately acquired a market value of approximately \$55 per share.

The hotel company suffered no impairment in its financial condition, and was relieved of a liability of \$1,150,000, which mitigated in large measure the consequence of loss through the death of an important personality. The family of Mr. Busick and others who had invested in the common stock also benefited by its subsequent appreciation.

Business Insurance may be applied to large or small cases, and may cover a variety of conditions. ¶ This Company writes all forms of business partnership and corporation life insurance. We gladly answer all inquiries from those interested in these or any other forms of life insurance or annuities. Address Inquiry Bureau, 197 Clarendon Street, Boston, Mass. » » » » » » » » »

Sixty-eight years in business \$3,524,312,144 Insurance in force. Assets, \$584,121,813.41. Liabilities, \$541,320,308.97. Surplus, \$42,801,504.44.

LIFE INSURANCE COMPANY
OF BOSTON, MASSACHUSETTS

Standards Always Changing

Declaring that standards in business and industry cannot be permanent but must be ever-changing and lead on to better standards, Myron H. Clark, vice-president of the Reading Iron Company, Reading, Pa., in an address before the annual fall meeting of the Taylor Society in New York last week, traced the "Development and Application of Standards to Production Management."

Mr. Clark pointed out that standardization in American industry has hardly begun; "emotion, opinion, hysteria and prejudice have each played a part, and present conditions are the result of undirected growth or drift rather than organized effort." As an illustration of the progressive change in standards, he said that in the Reading Iron Company "four six-hour shifts are being developed in view of the unemployment situation. This can also be an aid to production from the standpoint of reduction in fatigue and as other means of increasing production and reducing costs.

"Throughout the process of standardization it must be borne in mind that standards are not an end in themselves, but the means to an end. The main objective is profits to the company. To safeguard this objective, welfare of employes, service to customers and benefit to the community must also be borne in mind. None of these can be sacrificed without some injury to the others."

Big Volume Essential Building Work Seen

Probably 3,000,000 houses in the United States are in need of repairs, offering a large potential field for the employment-stimulating activities of the President's Committee on reconditioning, remodeling and modernization, according to estimates of the Copper and Brass Research Association.

The above total is based on the assumption that a progressing 10 per cent of the country's 21,000,000 houses require attention annually, and that the total number is increased now because of necessary repair work that has been long postponed because of general business conditions. A Federal estimate of the normal annual outlay for essential house repairs and maintenance places the total at \$500,000,000. The Copper and Brass Research Association estimates that should the reconditioning movement gain momentum, approximately 275,000,000 pounds of copper would be required.

Repairs to roofing, guttering and spouting are of outstanding importance

in the maintenance of houses, and the Association estimates that if only one-fifth of the total now in need of repairs, or 600,000 houses, were undertaken the amount of copper consumed in this work would aproximate a total of 150,000,000 pounds. If in the same number of houses replacement of water piping were done in brass or copper, the total requirements would be not less than 120,000,000 pounds. It is also pointed out that the replacement of damaged screens, hardware, etc., would add considerably to the total copper consumed.

Unique Insurance Birthday Present

Nine million dollars in new business, written in one month, was a unique gift presented by forces of the Jefferson Standard Life Insurance Company, Greensboro, N. C., to President Julian Price on his 64th birthday. Two million dollars written on the final day of the campaign exceeded all previous one-day records in the history of the company.

In anticipation of Mr. Price's birthday on November 25, the production force, on October 25 started a "special train" on a fancied "Yes Line," with A. R. Perkins as general manager. Each branch office was made a "division" of the "line," under the managers as division superintedents and the cashiers as chief dispatchers. Each representative of the company became part of a "train crew" and the miles of business each ran was made a service record in honor of Mr. Price's natal anniversary.

The "Yes Line" was suggested by Mr. Price's expressed determination that the Jefferson Standard should "put the 'No' out of business." Further, he predicted that, "one of these days, the No in business will be so faint as to be inaudible, and the Yes will be on every tongue."

Congratulations to Mr. Price from many points on the Jefferson Standard compass included messages from California, Minnesota, New Jersey, Ohio, Texas. Florida and Porto Rico.

Refitting Noted Ship at Wilmington, N. C.

Wilmington, N. C.—The former presidential yacht Mayflower, partially burned several months ago, is being completely remodeled and refitted here by L. P. Coe, of Chicago, the new owner. Eight or ten months will be required for rebuilding and remodeling the craft. It will then be exhibited in various parts of the country, to include the Great Lakes region and possibly the Chicago World's Exposition in 1933.

ROOFING AND SHEET METAL CONFERENCE

Three National Associations to Participate
in Meetings at Louisville

The first Roofing and Sheet Metal Industries Conference in the country, together with a sales promotion exhibit of all kinds of roofing and sheet metal materials and equipment, and tools used in the fabrication of these products and their application and installation, will be held during the week of January 25, at the Brown Hotel, in Louisville, Kentucky. The conference is sponsored by the Roofing Contractors Division of the National Slate Association, the United Roofing Contractors Association and the National Association of Sheet Metal Contractors; and a conference committee, composed of members of these three national associations, points out that the meeting is for any one engaged in the industry - manufacturers, distributors and contractors.

One session will be devoted to a discussion of "Architect, Owner and Organization Relationships." Robert D. Kohn, president of the American Institute of Architects, will speak on "How the Roofing and Sheet Metal Trades Can Improve Their Service to Architects and Owners." "Profitable Team Work in the Louisville Building Industry." is the subject of an address to be made by Thos. J. Nolan, architect, and president of the Louisville Building Congress.

At another session "General Contractor and Sources of Supply Relations" will be the theme, and an address, "Eliminating Abuses, Losses, Unnecessary Costs and Wastes in Practices and Relations of Roofing and Sheet Metal Trades with General Contractors," by T. T. Flagler, past president of the Associated General Contractors of America, will be a feature. J. B. Ohligschlager, president of the Louisville Chapter of the Associated General Contractors, will talk on "Mutually Profitable Relations of General and Sub-Contractors in Louisville." "How Are You Going to Make More Money in 1932?" is the subject of an address to be made by E. St. Elmo Lewis, of Philadelphia.

Round table discussions for various branches of the industry will be held as follows: Sheet Metal—George I. Ray, president, National Association of Sheet Metal Workers, presiding; Asphalt Roofing and Siding—R. W. Thompson, president, United Roofing Contractors Association, presiding; Warm Air Heating and Air Conditioning Problems—George Harms of Peoria, Ill., presiding; Asbestos, Slate and Tile Roofing Problems—Clark I. George, chairman, Roofing Contractors Division N. S. A., presiding.

WE extend the facilities of our organization to those desiring information or reports on companies with which we are identified.

Electric Bond and Share Company

Two Rector Street

New York

. |

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American Cotton of Higher Ouality

Foreign purchases of cotton increased recently as it became evident that this year's crop is of unusually high quality. There is 20 per cent more good cotton in the present crop, 59 bales of 15-16ths inch staple or better, out of each hundred, as against 48 bales last year. This is having a great deal to do with the growing demand from abroad.

The best method of improving further the quality of American cotton is considered to be the one-variety community plan. But whatever the means, the grower must be assured of more money for his crop. In this connection the American Cotton Cooperative Association, New Orlenas, calls attention to a bulletin issued by the North Carolina Experiment Station reporting on conditions in four typical communities. In one, the bulletin says:

"A premium was received for the staple of improved cottons only when it was marketed through a cooperative association."

Of another community it was said:

"Staple grown in this section from pure seed of improved varieties usually brings the 'top price' on the local market, and commands a full premium when sold through a cooperative association."

The world will use more cotton as the manufacturer creates new or better products. In this, the manufacturer is helped if he can get hundreds or thousands of bales of the same kind of cotton from the same community, year after year, without having to collect it in driblets here and there over the cotton belt. In the one-variety community, the manufacturer finds it easier to obtain the kind of cotton he wants and it is better for his purpose. It is all one breed, of the same character and spinning quality. It has less waste in spinning, and turns out a better article.

The one-variety community is worth while because it helps to grow more and better cotton, which always has an added value. But it also helps the manufacturer to make the kinds of goods which the world will call for more and more.

General contract to erect 21 officers' quarters at Maxwell Field, near Montgomery, Ala., has been awarded by Capt. M. A. McFadden, Constructing Quartermaster at Maxwell Field, to Samford Bros., Inc., Montgomery, at \$216,719, the buildings to be 2 stories, of frame construction finished with stucco.

SHIP LOANS AUTHORIZED

Seatrain Lines Plan Two Vessels for New Orleans-Havana Service at Cost of \$3,000,000

New Orleans, La.—The Shipping Board, Washington, has approved the application of Seatrain Lines, Inc., New York, for loans in aid of construction of two new vessels to be employed in ocean mail contract service on route No. 56 from New Orleans to Havana, Cuba, and other foreign service. Total cost of each vessel will be \$1,586,250, including commercial appliances. The Board's approval authorizes a separate loan on each vessel for an amount not to exceed three-fourths of the construction cost. plus a sum not to exceed three-fourths of the cost of equipment, the latter to include commercial appliances, etc. Seatrain Lines, Inc., will take over all assets of the Over-Seas Railways, Inc., it is announced. The boats will be built in the yards of the Sun Shipbuilding and Dry Dock Company, Chester, Pa. Each vessel will be approximately 473 feet long, 631/2 feet beam, with a draft of about 22 feet, equipped with geared turbine propelling machinery of 6500 horsepower, and will have a speed of about 15 knots.



Water Purification Plants Any Type—Any Purpose—Any Capacity

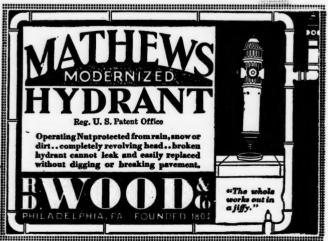
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Pressure and Gravity type for Municipal Water Supplies, Rayon Manufacturing Plants, Textile Finishing Establishments, Raw Water Ice Plants, Laundries, Btc.

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American Creosote Works, Inc. New Orleans, La.

Atlantic Creosoting Co., Inc. Norfolk, Va. Savannah, Ga.

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ZMA and/or CREOSOTE pressure treated building materials enable you to use lumber that is fully protected against decay, dry rot and termite attack.

The final cost of treated lumber is much less than untreated. When you think of wood treating you should consider Eppinger & Russell Co., for we have been pioneers in this field since 1878.

It will pay you to consult our engineers.

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Holt Hardwood Co., Oconto, Wis.

MEMBERS OF MAPLE FLOORING MANUFACTURERS ASSOCIATION

To Promote Western Carolina

Objectives of Western Carolina Mountains, Inc., and the best methods for attaining these objectives will be discussed at a regional meeting at Asheville, January 28, with Dr. R. C. Anderson as chairman of the committee in charge of these tonics.

Among the aims, as outlined by the committee, are: A regional plan for development of the entire mountain section; an educational program to present the assets, attractions and special advantages of the area; to promote tourist travel; to improve standards of living; to obtain the cooperation of all local and sectional business agencies, and to develop a definite plan which will enlist the federal, state and other governmental agencies.

The directors are Roger Miller, Asheville; Dr. Joseph R. Sevier, Hendersonville; Bonner Ray, Waynesville; Ralph E. Nollner, Lake Junaluska; Reuben B. Roberts, Canton; E. L. McKee, Sylva; Dr. Anderson, Montreat; Dr. L. B. Morse, Chimney Rock; Burnham S. Colburn. Biltmore Forest.

Apple Movement Through **Baltimore**

Shipments of 130,000 barrels in the new apple movement throughout the port of Baltimore are estimated in shipping circles to presage an aggregate of 400,000 barrels by early winter. Ten chartered vessels have reached the port and four others were ordered to carry out 68,000 additional barrels. The total movement by charter is expected to reach 228,000 barrels, according to G. H. Pouder, director of the export and import bureau of the Baltimore Association of Commerce. Some 30,000 barrels also are said to have been taken to Baltimore for cold storage.

Pipes From Arkansas Corn Cobs

Everton, Ark .- With the purchase of cobs produced on Ozark farms in this vicinity for use in the making of pipes at the plant of the Uncle Sam Cob Pipe Works, owned by Joseph Migilore, farmers are receiving double returns. Mr. Migilore, who takes a power corn sheller to every farmer's place and shells his corn, began his cob pipe works about 15 years ago. Last year, however, the corn crop was almost a total failure, and the manufacture of hickory pipes was initiated. A big cob corn, especially suited for making pipes, and known as St. Charles White, is grown in the section. It is said there are only five cob pipe plants in the entire country. The pipes

every state in the Union, as well as to many foreign countries.

Acquires Electric Systems

Beaufort, N. C .- The National Electric Power Corporation, New York, Eastern unit of the Middle West Utilities Company, Chicago, has acquired the municipal electric systems of Beaufort, Newport and Morehead City, N. C. These properties, which are adjacent to principal transmission lines of the purchasing company, will be operated by the Tidewater Power Company, Wilmington, N. C., a unit of National Electric Power Corporation operating in Kinston, Fayetteville, New Bern, Washington, Goldsboro, N. C., and other cities.

Cotton Movement

Forwardings to mills of the world of American cotton were larger the week ending December 3 than in the corresponding week of last year, reports the New York Cotton Exchange. Total forwardings during the season up to December 4 were 4,637,000 bales as compared with 4.124,000 bales for the similar period of last season. Exports to December 4 were 2,994,000 bales against 3,368,000 bales for the corresponding period of 1930.

The world visible supply of American cotton December 3 was 9,182,000 bales compared with 9,091,000 bales the previous week and 8,131,000 bales the week ending December 3, 1930.

College Building Program

Nashville, Tenn. - Local architects have been named by the State Board of Education for a number of structures to be erected in an extensive building program at A. & I. State College here. Plans and specifications will be prepared by Tisdale & Pinson for an administration building: Emmons Woolwine, health building; Hart, Freeland & Roberts, practice school, and Granberry Jackson, Jr., for a dairy and stock building.

\$2,500,000 Mississippi Bonds

Jackson, Miss.-The State Bond Commission will open bids December 21 for the purchase of \$2,500,000 bonds, \$1,-000,000 of which is intended to start work on a 6000-mile paving program and \$1,500,000 to further work on a hospital for the insane. The \$1,000,000 road bonds will be matched by a similar sum of Federal aid funds.

manufactured at Everton are shipped to 3,000,000 Tung Trees in Florida Nurseries

Since 1930 there has been an increase of over 2,000,000 tung oil trees in Florida, according to J. C. Goodwin, nursery inspector of the Florida State Plant Board, who estimates the present number of tung trees in the state at 3,000,-000. The growing of tung trees is becoming an important industry in Florida. with several large commercial developments under way.

As reported in the Agronomic Review issued by the American Cyanamid Company, experimentation has shown that tung trees attain a greater growth in this country than in China. At the Florida Experiment Station the average yield of 10 trees is over 45 pounds of seed per tree, as compared with 30 to 40 pounds per tree in China. China has supplied practically all the tung oil until very recently, but unsettled conditions in that country, primitive methods of manufacture and the frequently adulterated condition of the oil are all factors in the rapid increase in cultivation of tung oil trees in this country.

In 1929 we imported 119,678,000 pounds of tung oil at a cost of \$14.972,-000. The oil is used extensively in the paint and varnish industry, in the manufacture of oil cloth and linoleum, in the insulation of cables and in the manufacture of brake lining.

Larger Building Volume

Baltimore building permits issued in the first 11 months of this year had a total valuation of \$28,769,000, showing only a slight decline from the same period of 1930, when permits representing \$30,786,000 were issued. If account is taken of the big decrease in the cost of building, the actual volume of work undertaken in Baltimore this year exceeds that initiated in 1930.

\$2,500,000 Power Project

Augusta, Ga.-The Augusta Canal Commission, Charles D. Carr. chairman. has commissioned Burns & McDonnell Engineering Company, Kansas City, Mo., to prepare plans and specifications for a \$2,500,000 municipal power project on the Augusta Canal, for which bonds were voted November 17. Improvements will consist of a reserve power plant equipped with Diesel oil engines of approximately 15,000 horsepower. A second step in the project will be the electrification of the Canal, utilizing the Diesel engine power plant as a reserve installation. No date has been set for receiving construction bids.

WINSTON-SALEM

North Carolina

Keep selling your products and develop the 200 mile Winston-Salem radius

A perfect unit of distribution in every way

This unit is perfectly described in a set of surveys ready now for distribution. Here are some of the figures below giving you the commercial facts of Winston-Salem's 200 mile radius.

	200 mile rad. Winston-Salem, N. C.	200 mile rad. Next Largest	Excess in favor Winston-Salem, N. C.
In No. of Income Tax Returns	90,565	77,561	13,004
Automobile Registration	816,026	627,239	188,787
Electric Customers	344,400	341,372	3,028
Telephone Customers	238,003	221,898	16,105
Farm Values	\$582,450,000	\$460,900,000	\$121,550,000
Value of Manufactures	\$2,161,069,000	\$1,519,967,000	\$641,102,000
Individual Buying Power	\$2,628,600,000	\$2,072,500,000	\$556,100,000

Note: A 4 Booklet Survey of the Southeast available to executives interested in Distribution—includes—

BOOKLET I —The Southeast Market (24 pages).

BOOKLET II—Manufacturing Economies (36 pages).

BOOKLET IV—Winston-Salem a Place to Live In (32 pages).

Address Industrial Commission of Winston-Salem, Inc.*

c/o Chamber of Commerce, Winston-Salem, N. C.

*A co-operative body sponsored by the Real Estate Board, Retail Merchants Association and Chamber of Commerce.

"GIVE YOUR THROAT A VACATION Smoke a FRESH cigarette"

If the cigarette you have been smoking stings or burns your throat, switch to Camels and see the difference.

It's the peppery dust left in tobacco by inefficient cleaning methods that makes you cough.

It's the unkindly hot smoke of harsh, dried-out tobacco that burns and irritates your throat.

There is no peppery dust in Camels

— that's whisked away by a special vacuum-cleaning process.

There are no stale, crumbly, parched tobaccos—the fine Turkish and mild Domestic tobaccos of which Camels are blended come to you in prime, factory-fresh condition, thanks to the Camel Humidor Pack.

Give your throat a vacation, switch to Camels for just one day. Then leave them—if you can.



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Mild NO CIGARETTY AFTER-TASTE

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PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close January 5, 1932.

U. S. ENGINEER OFFICE, FIRST NEW ORLEANS DISTRICT, Poland and Dauphine Sts., New Orleans, La., December 4, 1931.—Sealed bids, in duplicate, will be received until 3.00 P. M., January 5, 1932, and then publicly opened for furnishing all labor and materials and performing all work for dredging the Louisiana and Texas Intracoastal Waterway, Mississippi River-Atchafalaya River Section, from Harvey to Bayou Blue, La., comprising approximately 6,554,100 cubic yards, place measurement. Further information on application.

Bids close December 30, 1931.

SEALED BIDS will be received in this office until 11.00 A. M., Eastern Standard Time, December 30, 1931, and then publicly opened in Room 1613 Navy Building, for furnishing all labor and materials and constructing a steel bridge carrying the Rock Creek and Potomac Parkway over Rock Creek at L Street, N. W., Washington, D. C. The approximate quantities of materials are as follows: Structural Steel, 168 tons; Reinforced Concrete, 1030 cubic yards; Reinforcing Steel, 47 tons; Creosoted Timber, 10 M. B. M. Further information upon application.

Bids close January 12, 1932.

OFFICE OF THE ARCHITECT OF THE CAPITOL, Washington, D. C., November 24, 1931. SEALED BIDS will be opened in this office at 3 P. M., January 12, 1932, for the construction of the Addition to the Library of Congress, Washington, D. C. The building, as designed, will be fireproof with granite facing. Drawings and specifications, not exceeding three sets, may be obtained at the office of the Architect of the Capitol, in the discretion of said Architect, by any satisfactory general contractor. A deposit of fifty dollars (\$50.00) will be required for each set of drawings and specifications to insure their return in good condition. Checks therefore to be made payable to the order of David Lynn, Architect of the Capitol.

Bids close December 23, 1931.

Bids close December 23, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., November 25, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., December 23, 1931, for furnishing all labor and materials and performing all work for repairs for boilers, etc., in the U. S. custom house, New Orleans, La. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close December 14, 1931.

Bids close December 14, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., November 16, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., December 14, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Clearfield, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided adeposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

GENERAL INFORMATION About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday. FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible

THE
DAILY CONSTRUCTION BULLETIN
OF THE
MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal reuirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close December 15, 1931.

U. S. Engineer Office, Wilmington, N. C. Sealed Bids, in duplicate, will be received until 12 o'clock noon, December 15, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for dredging approximately 67,680 cubic yards of rock and soft materials, mixed, in Section II and approximately 88,700 cubic yards of soft materials in Sections I and II of the Intracoastal Waterway, Beaufort to Cape Fear River, N. C.

Bids close December 28, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 4, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., December 28, 1931, for furnishing all labor and materials and performing all work for the construction of elevator hoistway in connection with the extension and remodeling (except elevator) of the U. S. post office, court house, etc., at Elmira, N. Y. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor. JAS. A. WETMORE, Acting Supervising Architect.

Bids close January 4, 1932.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 4, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., January 4, 1932, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Texas City, Texas. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding 3 sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made anyable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close December 18, 1931.

U. S. Engineer Office, Rock Island, Illinois. Sealed Bids, in duplicate, will be received until 3.00 P. M., December 18, 1931, and then publicly opened, for furnishing all labor and materials, and performing all work for constructing a Roller-Gate Dam, power house, intercepter sewer and sea-wall, Lock and Dam No. 15, Mississippi River. Further information on application.

Bids close December 15, 1931.

U. S. ENGINEER OFFICE, FIRST NEW ORLEANS DISTRICT, Poland and Dauphine Streets, New Orleans, La., November 14, 1931.—Sealed bids, in duplicate, will be received until 2 P. M., December 15, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for furnishing, setting and erecting the fixed irons, gates and operating machinery for the lock which is being built in the Louisiana and Texas Intracoastal Waterway at Harvey, La. Further information on application.

Bids close January 5, 1932.

Bids close January 5, 1932.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the Veterans Administation, Room 764, Arlington Building, Washington, D. C., until 2:30 P. M., January 5, 1932, and then publicly opened, for furnishing all labor and materials and performing all work required for constructing and finishing complete at VETERANS ADMINISTRATION HOME, ST. PETERSBURG, FLORIDA, BUILDINGS AND UTILITIES, including roads, walks, grading and drainage. This work will include excavating, concrete pilling, reinforced concrete, hollow cement blocks, hollow tile, brick work, architectural terra cotta, cut stone, slate stair treads, marble work, terrazzo, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, iron work, flagpole, steel sash, steel stairs, steel shelving, cabinets and partitions, tile metal and built-up roofing, roof ventilators, metal lathing, stucco, plastering, sound deadening, captentry, metal weatherstrips, insect screens, platform scales, painting, glazing, hardware, plumbing, refrigerating and leemaking plant, boiler plant equipment, heating and ventilating, electrical work, electric elevators, steel water tank and tower, sewage treatment works, and outside sewer, water, gas, steam and electric distribution systems. SEPARATE BIDS will be received for (a) General Construction of Hospital Building, etc., including alternates; (b), Plumbing, Heating, Electrical Work and Outside Distribution Systems for all work included in Item I; (c) Electric Elevators; (d) Steel Water Tank and Tower; (e) Sewage Treatment Works; (f) Refrigerating and Iee Making Plant and (g) General Construction of Nurses' Quarters, Garage and alternates, including Plumbing, Heating and Electrical Work and outside service connections; all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract, and

Bids close December 21, 1931.

Bids close December 21, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 5, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., December 21, 1931, for furnishing all labor and materials and performing all work for the construction of walks, lamp standard foundations and foundations for flag poles at the U. S. Department of Commerce Building, Washington, D. C. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close December 30, 1931.

Bids close December 30, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., December 2, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., December 30, 1931, for furnishing all labor and materials and performing all work for the extension and remodeling of the post office (except elevator), of the U. S. post office at McKeesport, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close December 21, 1931.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. (Readvertisement). Sealed proposals in triplicate will be received in this office until 10.00 A. M., December 21, 1931, and then publicly opened, for the construction and completion of Addition to Monument at Cowpens Battlefield, near Ezell, S. C. \$10.00 deposit certified check payable to Treasurer of United States required for plans and specifications. A certified check or bid bond in the amount of \$200.00 will be required with each proposal. Further information on request.

Bids close December 15, 1931.

\$20,000 6% Refunding Bonds

Piedmont, Ala.

Sealed bids will be received by the City of Piedmont, Alabama, until 7.00 o'clock P. M., on the 15th day of December 1931 for the purchase of \$20,000 6 per cent Refunding bonds of said city dated 1st January 1932 payable on 1st January \$2,000 in each of the years 1933 to 1942 inclusive, principal and interest payable in gold coin of the United States of America of the present standard of weight and fineness at Chase National Bank, New York, N. Y. Legal opinion of Storey, Thorndike, Palmer & Dodge will be furnished.

Bids should be addressed to G. B. Jenkins, City Clerk, should be marked on the outside "Bid for bonds" and must be accompanied by a certified check in the sum of \$500 payable to the City to protect the city against any loss from failure of the bidder to comply with the terms of his bid. No bid for less than 95 and accrued interest can be accepted.

The right is reserved to reject any or all bids.

GEO. P. HASLAM, Mayor.

GEO. P. HASLAM, Mayor.

Bids close December 15, 1931.

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS
Baltimore, Md.

SEALED PROPOSALS for the construction of bridges as follows:
Anne Arundel County, Contract No. AA121-87—Substructure, approaches, etc., for proposed bridge over the Patuxent River on the road from Upper Marlboro to Mt. Zion, known as Hill's Bridge.

Cecil County, Contract No. Ce-112-27—
Triple span, concrete girder bridge, on the road from Elkton to Chesapeake City over Elk River on Bridge Street. will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 15th day of December, 1931, at which time and place they will be publicly opened and read.

Eide must be made upon the blank pro-

and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 1st day of December, 1931.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.



CLASSIFIED OPPORTUNITIES



MINERAL AND TIMBER LANDS, WATER **POWER, MISCELLANEOUS PROPERTIES**

60,000,000 FEET VIRGENIA HARDWOODS
Principally Yellow Poplar, Red and
White Oak, located Patrick County, Great
Potential value for hydro-electric power
development, now desired two large companies. Will also entertain some sort deal
for operation with reliable concern. Particulars address No. 9150, care of Manufacturers Record, Baltimore, Md.

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FOR SALE
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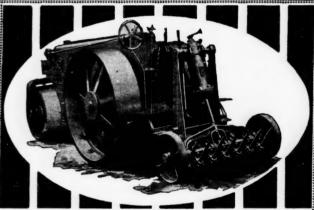
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Wiley & Wilson, Lynchburg, Va

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Harrub Engr. Ca., C. M., Nashville, Fonn.
Hills and Youngberg, Jacksonville, Fla.
White Co., Gilbert C., Durham, N. C.
Whitman, Bequardt & Smith, Balto., Md.
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— (Structural.)

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Park, Ark.

Hills and Youngberg, Jacksenville, Fla.
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Virginia Bridge & Iron Co., Roanoke, Va.
Whitman, Bequardt & Smith, Balto., Md.

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——(Transmission Lines.) Hoosier Engineering Co., Chicago, Ill.

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Whitman, Requardt & Smith, Balto., Md.
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Superior Engine Co., Springfield, O.

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Northwest Engineering Co., Chicago, Ill.
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——(Swivel.)
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— (Open Steel.) Blaw-Knex Co., Pittsburgh, Pa. Kerlow Steel Flooring Co., Jersey City, R. J.

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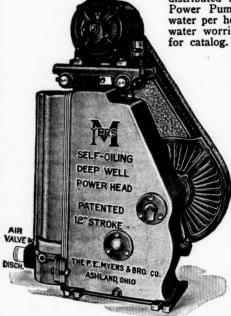
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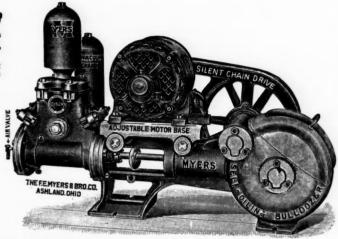
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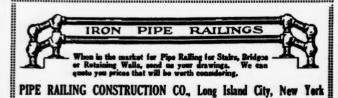
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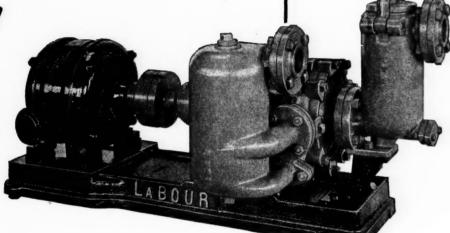
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